wwPDB EM Validation Summary Report (i)

Nov 27, 2022 – 04:50 PM EST

PDB ID	:	6XR4
EMDB ID	:	EMD-20825
Title	:	Integrative in situ structure of Parkinsons disease-linked human LRRK2
Authors	:	Villa, E.; Lasker, K.; Audagnotto, M.
Deposited on	:	2020-07-10
Resolution	:	14.00 Å(reported)

This is a wwPDB EM Validation Summary Report for a publicly released PDB entry.

We welcome your comments at *validation@mail.wwpdb.org*
A user guide is available at
https://www.wwpdb.org/validation/2017/EMValidationReportHelp
with specific help available everywhere you see the (i) symbol.

The types of validation reports are described at
http://www.wwpdb.org/validation/2017/FAQs#types.

The following versions of software and data (see references (i)) were used in the production of this report:

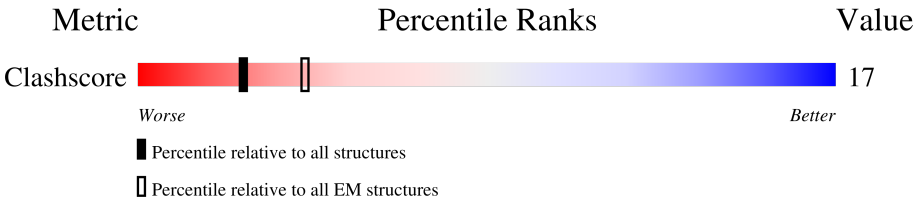
EMDB validation analysis	:	0.0.1.dev43
MolProbity	:	4.02b-467
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ	:	1.9.9
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.31.2

1 Overall quality at a glance (i)

The following experimental techniques were used to determine the structure:
ELECTRON MICROSCOPY

The reported resolution of this entry is 14.00 Å.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.



Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	158937	4297

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions <=5% The upper red bar (where present) indicates the fraction of residues that have poor fit to the EM map (all-atom inclusion < 40%). The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	1-A	2527	10% 41% 59%
1	1-B	2527	14% 41% 59%
1	10-A	2527	40% · 59%
1	10-B	2527	40% · 59%
1	11-A	2527	41% 59%
1	11-B	2527	41% 59%
1	12-A	2527	40% · 59%
1	12-B	2527	40% · 59%
1	13-A	2527	40% · 59%
1	13-B	2527	40% · 59%

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Mol	Chain	Length	Quality of chain
1	14-A	2527	39% · 59%
1	14-B	2527	39% · 59%
1	15-A	2527	40% · 59%
1	15-B	2527	40% · 59%
1	16-A	2527	39% · 59%
1	16-B	2527	39% · 59%
1	17-A	2527	41% 59%
1	17-B	2527	41% 59%
1	18-A	2527	40% · 59%
1	18-B	2527	40% · 59%
1	19-A	2527	40% · 59%
1	19-B	2527	40% · 59%
1	2-A	2527	41% 59%
1	2-B	2527	41% 59%
1	20-A	2527	40% · 59%
1	20-B	2527	40% · 59%
1	21-A	2527	40% · 59%
1	21-B	2527	40% · 59%
1	22-A	2527	40% · 59%
1	22-B	2527	40% · 59%
1	23-A	2527	41% 59%
1	23-B	2527	41% 59%
1	24-A	2527	39% · 59%
1	24-B	2527	39% · 59%
1	25-A	2527	39% · 59%

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Mol	Chain	Length	Quality of chain
1	25-B	2527	39% 59%
1	26-A	2527	41% 59%
1	26-B	2527	41% 59%
1	27-A	2527	40% 59%
1	27-B	2527	40% 59%
1	28-A	2527	40% 59%
1	28-B	2527	40% 59%
1	29-A	2527	40% 59%
1	29-B	2527	40% 59%
1	3-A	2527	41% 59%
1	3-B	2527	41% 59%
1	30-A	2527	40% 59%
1	30-B	2527	40% 59%
1	31-A	2527	41% 59%
1	31-B	2527	41% 59%
1	32-A	2527	40% 59%
1	32-B	2527	40% 59%
1	33-A	2527	40% 59%
1	33-B	2527	40% 59%
1	34-A	2527	40% 59%
1	34-B	2527	40% 59%
1	35-A	2527	40% 59%
1	35-B	2527	40% 59%
1	36-A	2527	40% 59%
1	36-B	2527	40% 59%

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Mol	Chain	Length	Quality of chain
1	37-A	2527	41% 59%
1	37-B	2527	40% 59%
1	38-A	2527	39% 59%
1	38-B	2527	39% 59%
1	39-A	2527	40% 59%
1	39-B	2527	40% 59%
1	4-A	2527	40% 59%
1	4-B	2527	41% 59%
1	40-A	2527	40% 59%
1	40-B	2527	40% 59%
1	41-A	2527	39% 59%
1	41-B	2527	38% 59%
1	42-A	2527	40% 59%
1	42-B	2527	40% 59%
1	43-A	2527	40% 59%
1	43-B	2527	40% 59%
1	44-A	2527	41% 59%
1	44-B	2527	41% 59%
1	45-A	2527	40% 59%
1	45-B	2527	40% 59%
1	46-A	2527	39% 59%
1	46-B	2527	40% 59%
1	47-A	2527	40% 59%
1	47-B	2527	40% 59%
1	48-A	2527	40% 59%

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Mol	Chain	Length	Quality of chain
1	48-B	2527	40% · 59%
1	49-A	2527	40% · 59%
1	49-B	2527	40% · 59%
1	5-A	2527	40% · 59%
1	5-B	2527	40% · 59%
1	50-A	2527	39% · 59%
1	50-B	2527	39% · 59%
1	51-A	2527	39% · 59%
1	51-B	2527	39% · 59%
1	52-A	2527	39% · 59%
1	52-B	2527	39% · 59%
1	53-A	2527	39% · 59%
1	53-B	2527	39% · 59%
1	6-A	2527	41% 59%
1	6-B	2527	41% 59%
1	7-A	2527	39% · 59%
1	7-B	2527	39% · 59%
1	8-A	2527	40% · 59%
1	8-B	2527	40% · 59%
1	9-A	2527	41% 59%
1	9-B	2527	40% · 59%

2 Entry composition (i)

There is only 1 type of molecule in this entry. The entry contains 110240 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, the AltConf column contains the number of residues with at least one atom in alternate conformation and the Trace column contains the number of residues modelled with at most 2 atoms.

- Molecule 1 is a protein called Leucine-rich repeat serine/threonine-protein kinase 2.

Mol	Chain	Residues	Atoms	AltConf	Trace
1	1-A	1040	Total C 1040 1040	0	1040
1	2-A	1040	Total C 1040 1040	0	1040
1	3-A	1040	Total C 1040 1040	0	1040
1	4-A	1040	Total C 1040 1040	0	1040
1	5-A	1040	Total C 1040 1040	0	1040
1	6-A	1040	Total C 1040 1040	0	1040
1	7-A	1040	Total C 1040 1040	0	1040
1	8-A	1040	Total C 1040 1040	0	1040
1	9-A	1040	Total C 1040 1040	0	1040
1	10-A	1040	Total C 1040 1040	0	1040
1	11-A	1040	Total C 1040 1040	0	1040
1	12-A	1040	Total C 1040 1040	0	1040
1	13-A	1040	Total C 1040 1040	0	1040
1	14-A	1040	Total C 1040 1040	0	1040
1	15-A	1040	Total C 1040 1040	0	1040
1	16-A	1040	Total C 1040 1040	0	1040
1	17-A	1040	Total C 1040 1040	0	1040

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Mol	Chain	Residues	Atoms	AltConf	Trace
1	18-A	1040	Total C 1040 1040	0	1040
1	19-A	1040	Total C 1040 1040	0	1040
1	20-A	1040	Total C 1040 1040	0	1040
1	21-A	1040	Total C 1040 1040	0	1040
1	22-A	1040	Total C 1040 1040	0	1040
1	23-A	1040	Total C 1040 1040	0	1040
1	24-A	1040	Total C 1040 1040	0	1040
1	25-A	1040	Total C 1040 1040	0	1040
1	26-A	1040	Total C 1040 1040	0	1040
1	27-A	1040	Total C 1040 1040	0	1040
1	28-A	1040	Total C 1040 1040	0	1040
1	29-A	1040	Total C 1040 1040	0	1040
1	30-A	1040	Total C 1040 1040	0	1040
1	31-A	1040	Total C 1040 1040	0	1040
1	32-A	1040	Total C 1040 1040	0	1040
1	33-A	1040	Total C 1040 1040	0	1040
1	34-A	1040	Total C 1040 1040	0	1040
1	35-A	1040	Total C 1040 1040	0	1040
1	36-A	1040	Total C 1040 1040	0	1040
1	37-A	1040	Total C 1040 1040	0	1040
1	38-A	1040	Total C 1040 1040	0	1040

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Mol	Chain	Residues	Atoms	AltConf	Trace
1	39-A	1040	Total C 1040 1040	0	1040
1	40-A	1040	Total C 1040 1040	0	1040
1	41-A	1040	Total C 1040 1040	0	1040
1	42-A	1040	Total C 1040 1040	0	1040
1	43-A	1040	Total C 1040 1040	0	1040
1	44-A	1040	Total C 1040 1040	0	1040
1	45-A	1040	Total C 1040 1040	0	1040
1	46-A	1040	Total C 1040 1040	0	1040
1	47-A	1040	Total C 1040 1040	0	1040
1	48-A	1040	Total C 1040 1040	0	1040
1	49-A	1040	Total C 1040 1040	0	1040
1	50-A	1040	Total C 1040 1040	0	1040
1	51-A	1040	Total C 1040 1040	0	1040
1	52-A	1040	Total C 1040 1040	0	1040
1	53-A	1040	Total C 1040 1040	0	1040
1	1-B	1040	Total C 1040 1040	0	1040
1	2-B	1040	Total C 1040 1040	0	1040
1	3-B	1040	Total C 1040 1040	0	1040
1	4-B	1040	Total C 1040 1040	0	1040
1	5-B	1040	Total C 1040 1040	0	1040
1	6-B	1040	Total C 1040 1040	0	1040

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Mol	Chain	Residues	Atoms	AltConf	Trace
1	7-B	1040	Total C 1040 1040	0	1040
1	8-B	1040	Total C 1040 1040	0	1040
1	9-B	1040	Total C 1040 1040	0	1040
1	10-B	1040	Total C 1040 1040	0	1040
1	11-B	1040	Total C 1040 1040	0	1040
1	12-B	1040	Total C 1040 1040	0	1040
1	13-B	1040	Total C 1040 1040	0	1040
1	14-B	1040	Total C 1040 1040	0	1040
1	15-B	1040	Total C 1040 1040	0	1040
1	16-B	1040	Total C 1040 1040	0	1040
1	17-B	1040	Total C 1040 1040	0	1040
1	18-B	1040	Total C 1040 1040	0	1040
1	19-B	1040	Total C 1040 1040	0	1040
1	20-B	1040	Total C 1040 1040	0	1040
1	21-B	1040	Total C 1040 1040	0	1040
1	22-B	1040	Total C 1040 1040	0	1040
1	23-B	1040	Total C 1040 1040	0	1040
1	24-B	1040	Total C 1040 1040	0	1040
1	25-B	1040	Total C 1040 1040	0	1040
1	26-B	1040	Total C 1040 1040	0	1040
1	27-B	1040	Total C 1040 1040	0	1040

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Mol	Chain	Residues	Atoms	AltConf	Trace
1	28-B	1040	Total C 1040 1040	0	1040
1	29-B	1040	Total C 1040 1040	0	1040
1	30-B	1040	Total C 1040 1040	0	1040
1	31-B	1040	Total C 1040 1040	0	1040
1	32-B	1040	Total C 1040 1040	0	1040
1	33-B	1040	Total C 1040 1040	0	1040
1	34-B	1040	Total C 1040 1040	0	1040
1	35-B	1040	Total C 1040 1040	0	1040
1	36-B	1040	Total C 1040 1040	0	1040
1	37-B	1040	Total C 1040 1040	0	1040
1	38-B	1040	Total C 1040 1040	0	1040
1	39-B	1040	Total C 1040 1040	0	1040
1	40-B	1040	Total C 1040 1040	0	1040
1	41-B	1040	Total C 1040 1040	0	1040
1	42-B	1040	Total C 1040 1040	0	1040
1	43-B	1040	Total C 1040 1040	0	1040
1	44-B	1040	Total C 1040 1040	0	1040
1	45-B	1040	Total C 1040 1040	0	1040
1	46-B	1040	Total C 1040 1040	0	1040
1	47-B	1040	Total C 1040 1040	0	1040
1	48-B	1040	Total C 1040 1040	0	1040

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Mol	Chain	Residues	Atoms		AltConf	Trace
1	49-B	1040	Total 1040	C 1040	0	1040
1	50-B	1040	Total 1040	C 1040	0	1040
1	51-B	1040	Total 1040	C 1040	0	1040
1	52-B	1040	Total 1040	C 1040	0	1040
1	53-B	1040	Total 1040	C 1040	0	1040

There are 2 discrepancies between the modelled and reference sequences:

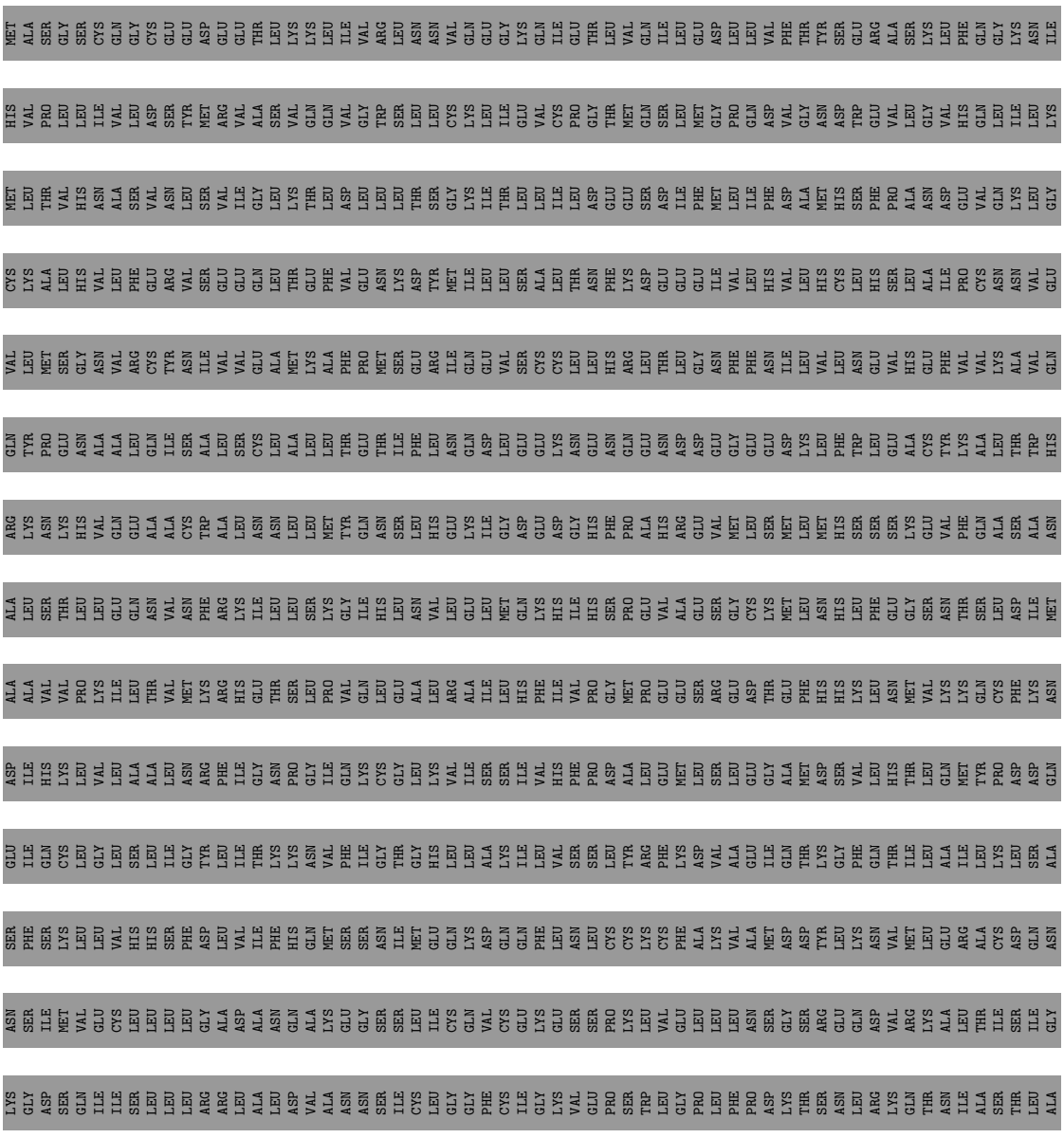
Chain	Residue	Modelled	Actual	Comment	Reference
A	2020	THR	ILE	variant	UNP Q5S007
B	2020	THR	ILE	variant	UNP Q5S007

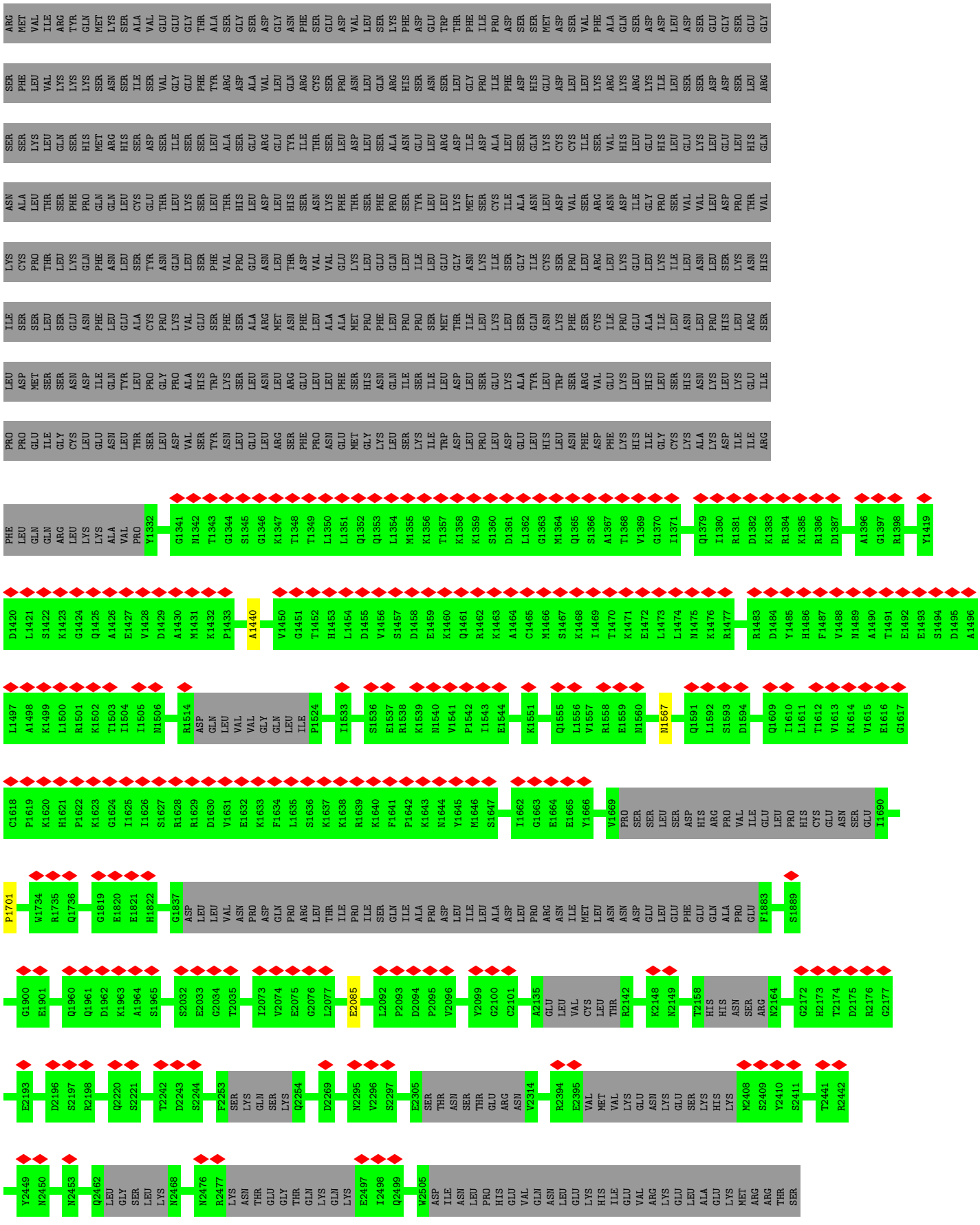
3 Residue-property plots (i)

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion in map density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red diamond above a residue indicates a poor fit to the EM map for this residue (all-atom inclusion < 40%). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

- Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

Chain 1-A:





VAL GLU

- Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

Chain 1-B:

MET ALA SER GLY SER CYS GLN GLY CYS GLU GLU ASP GLU GLU THR LEU LYS LYS LEU ILE VAL ARG LEU ASN ASN VAL GLN GLU GLY LYS GLN ILE GLU THR LEU VAL GLN ILE LEU GLU ASP LEU LEU VAL PHE THR TYR SER GLU ARG ALA SER LYS LEU PHE GLN GLY LYS ASN ILE

HIS VAL PRO LEU LEU ILE VAL LEU ASP SER TYR MET ARG VAL ALA SER VAL GLN GLN VAL GLY TRP SER LEU LEU CYS LYS LEU ILE GLU VAL CYS PRO GLY THR MET GLN SER LEU MET GLY PRO GLN ASP VAL GLY ASN ASP TRP GLU VAL LEU GLY VAL HIS GLN LEU ILE LEU LYS

MET LEU THR VAL HIS ASN ALA SER VAL ASN LEU SER VAL ILE GLY LEU LYS THR LEU ASP LEU LEU LEU THR SER GLY LYS ILE THR LEU LEU ILE LEU ASP GLU GLU SER ASP ILE PHE MET LEU ILE PHE ASP ALA MET HIS SER PHE PRO ALA ASN ASP GLU VAL GLN LYS LEU GLY

CYS LYS ALA LEU HIS VAL LEU PHE GLU ARG VAL SER GLU GLU GLN LEU THR GLU PHE VAL GLU ASN LYS ASP TYR MET ILE LEU LEU SER ALA LEU THR ASN PHE LYS ASP GLU GLU GLU ILE VAL LEU HIS VAL LEU HIS CYS LEU HIS SER LEU ALA ILE PRO CYS ASN ASN VAL GLU

VAL LEU MET SER GLY ASN VAL ARG CYS TYR ASN ILE VAL VAL GLU ALA MET LYS ALA PHE PRO MET SER GLU ARG ILE GLN GLU VAL SER CYS CYS LEU LEU HIS ARG LEU THR LEU GLY ASN PHE PHE ASN ILE LEU VAL LEU ASN GLU VAL HIS GLU PHE VAL VAL LYS ALA VAL GLN

GLN TYR PRO GLU ASN ALA ALA LEU GLN ILE SER ALA LEU SER CYS LEU ALA LEU LEU THR GLU THR ILE PHE LEU ASN GLN ASP LEU GLU GLU LYS ASN GLU ASN GLN GLU ASN ASP ASP GLU GLY GLU GLU ASP LYS LEU PHE TRP LEU GLU ALA CYS TYR LYS ALA LEU THR TRP HIS

ARG LYS ASN LYS HIS VAL GLN GLU ALA ALA CYS TRP ALA LEU ASN ASN LEU LEU MET TYR GLN ASN SER LEU HIS GLU LYS ILE GLY ASP GLU ASP GLY HIS PHE PRO ALA HIS ARG GLU VAL MET LEU SER MET LEU MET HIS SER SER SER LYS GLU VAL PHE GLN ALA SER ALA ASN

ALA LEU SER THR LEU LEU GLU GLN ASN VAL ASN PHE ARG LYS ILE LEU LEU SER LYS GLY ILE HIS LEU ASN VAL LEU GLU LEU MET GLN LYS HIS ILE HIS SER PRO GLU VAL ALA GLU SER GLY CYS LYS MET LEU ASN HIS LEU PHE GLU GLY SER ASN THR SER LEU ASP ILE MET

ALA ALA VAL VAL PRO LYS ILE LEU THR VAL MET LYS ARG HIS GLU THR SER LEU PRO VAL GLN LEU GLU ALA LEU ARG ALA ILE LEU HIS PHE ILE VAL PRO GLY MET PRO GLU GLU SER ARG GLU ASP THR GLU PHE HIS HIS LYS LEU ASN MET VAL LYS LYS GLN CYS PHE LYS ASN

ASP ILE HIS LYS LEU VAL LEU ALA ALA LEU ASN ARG PHE ILE GLY ASN PRO GLY ILE GLN LYS CYS GLY LEU LYS VAL ILE SER SER ILE VAL HIS PHE PRO ASP ALA LEU GLU MET LEU SER LEU GLU GLY ALA MET ASP SER VAL LEU HIS THR LEU GLN MET TYR PRO ASP ASP GLN

GLU ILE GLN CYS LEU GLY LEU SER LEU ILE GLY TYR LEU ILE THR LYS LYS ASN VAL PHE ILE GLY THR GLY HIS LEU LEU ALA LYS ILE LEU VAL SER SER LEU TYR ARG PHE LYS ASP VAL ALA GLU ILE GLN THR LYS GLY PHE GLN THR ILE LEU ALA ILE LEU LYS LEU SER ALA

SER PHE SER LYS LEU LEU VAL HIS HIS SER PHE ASP LEU VAL ILE PHE HIS GLN MET SER SER ASN ILE MET GLU GLN LYS ASP GLN GLN PHE LEU ASN LEU CYS CYS LYS CYS PHE ALA LYS VAL ALA MET ASP ASP TYR LEU LYS ASN VAL MET LEU GLU ARG ALA CYS ASP GLN ASN

ASN SER ILE MET VAL GLU CYS LEU LEU LEU LEU GLY ALA ASP ALA ASN GLN ALA LYS GLU GLY SER SER LEU ILE CYS GLN VAL CYS GLU LYS GLU SER SER PRO LYS LEU VAL GLU LEU LEU LEU ASN SER GLY SER ARG GLU GLN ASP VAL ARG LYS ALA LEU THR ILE SER ILE GLY

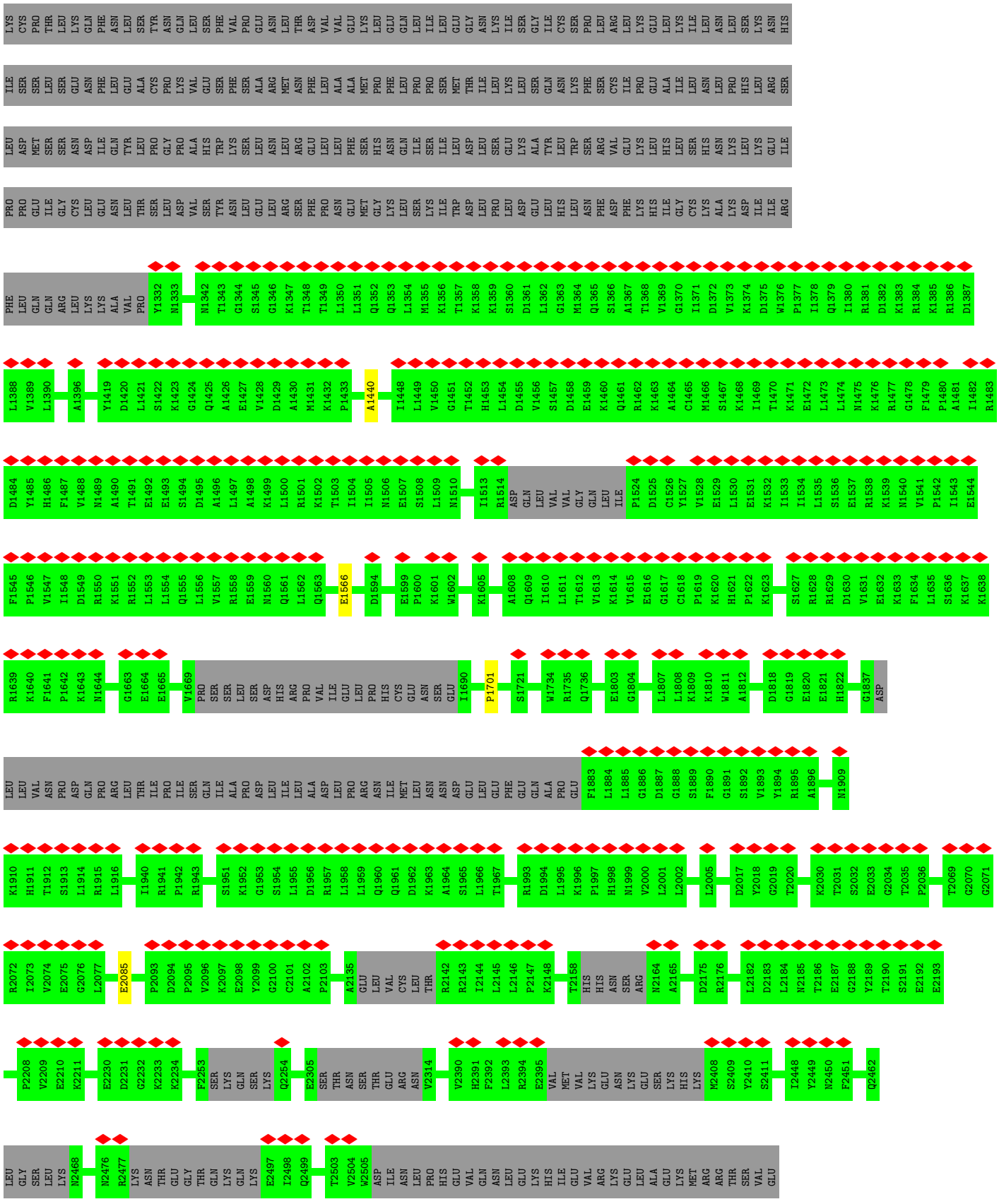
LYS GLY ASP SER GLN ILE ILE SER LEU LEU LEU ARG ARG LEU ALA LEU ASP VAL ALA ASN ASN SER ILE CYS LEU GLY GLY PHE CYS ILE GLY LYS VAL GLU PRO SER TRP LEU GLY PRO LEU PHE PRO ASP LYS THR SER ASN LEU ARG LYS GLN THR ASN ILE ALA SER THR LEU ALA

ARG MET VAL ILE ARG TYR GLN MET LYS SER ALA VAL GLU GLU GLY THR ALA SER GLY SER ASP GLY ASN PHE SER GLU ASP VAL LEU SER LYS PHE ASP GLU TRP THR PHE ILE PRO ASP SER SER MET ASP SER VAL PHE ALA GLN SER ASP ASP LEU ASP SER GLU GLY SER GLU GLY

SER PHE LEU VAL LYS LYS LYS SER ASN SER ILE SER VAL GLY GLU PHE TYR ARG ASP ALA VAL LEU GLN ARG CYS SER PRO ASN LEU GLN ARG HIS SER ASN SER LEU GLY PRO ILE PHE ASP HIS GLU ASP LEU LEU LYS ARG LYS ARG LYS ILE LEU SER SER ASP ASP SER LEU ARG

SER SER LYS LEU GLN SER HIS MET ARG HIS SER ASP SER ILE SER SER LEU ALA SER GLU ARG GLU TYR ILE THR SER LEU ASP LEU SER ALA ASN GLU LEU ARG ASP ILE ASP ALA LEU SER GLN LYS CYS CYS ILE SER VAL HIS LEU GLU HIS LEU GLU LYS LEU GLU LEU HIS GLN

ASN ALA LEU THR SER PHE PRO GLN GLN LEU CYS GLU THR LEU LYS SER LEU THR HIS LEU ASP LEU HIS SER ASN LYS PHE THR SER PHE PRO SER TYR LEU LEU LYS MET SER CYS ILE ALA ASN LEU ASP VAL SER ARG ASN ASP ILE GLY PRO SER VAL VAL LEU ASP PRO THR VAL



• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

Chain 2-A: 41% 59%

MET ALA SER GLY SER CYS GLN GLY CYS GLU GLU ASP GLU GLU THR LEU LYS LYS LEU ILE VAL ARG LEU ASN ASN VAL GLN GLU GLY LYS GLN ILE GLU THR LEU VAL GLN ILE LEU GLU ASP LEU LEU VAL PHE THR TYR SER GLU ARG ALA SER LYS LEU PHE GLN GLY LYS ASN ILE

HIS VAL PRO LEU LEU ILE VAL LEU ASP SER TYR MET ARG VAL ALA SER VAL GLN GLN VAL GLY TRP SER LEU LEU CYS LYS LEU ILE GLU VAL CYS PRO GLY THR MET GLN SER LEU MET GLY PRO GLN ASP VAL GLY ASN ASP TRP GLU VAL LEU GLY VAL HIS GLN LEU ILE LEU LYS

MET LEU THR VAL HIS ASN ALA SER VAL ASN LEU SER VAL ILE GLY LEU LYS THR LEU ASP LEU LEU LEU THR SER GLY LYS ILE THR LEU LEU ILE LEU ASP GLU GLU SER ASP ILE PHE MET LEU ILE PHE ASP ALA MET HIS SER PHE PRO ALA ASN ASP GLU VAL GLN LYS LEU GLY

CYS LYS ALA LEU HIS VAL LEU PHE GLU ARG VAL SER GLU GLU GLN LEU THR GLU PHE VAL GLU ASN LYS ASP TYR MET ILE LEU LEU SER ALA LEU THR ASN PHE LYS ASP GLU GLU GLU ILE VAL LEU HIS VAL LEU HIS CYS LEU HIS SER LEU ALA ILE PRO CYS ASN ASN VAL GLU

VAL LEU MET SER GLY ASN VAL ARG CYS TYR ASN ILE VAL VAL GLU ALA MET LYS ALA PHE PRO MET SER GLU ARG ILE GLN GLU VAL SER CYS CYS LEU LEU HIS ARG LEU THR LEU GLY ASN PHE PHE ASN ILE LEU VAL LEU ASN GLU VAL HIS GLU PHE VAL VAL LYS ALA VAL GLN

GLN TYR PRO GLU ASN ALA ALA LEU GLN ILE SER ALA LEU SER CYS LEU ALA LEU LEU THR GLU THR ILE PHE LEU ASN GLN ASP LEU GLU GLU LYS ASN GLU ASN GLN GLU ASN ASP ASP GLU GLY GLU GLU ASP LYS LEU PHE TRP LEU GLU ALA CYS TYR LYS ALA LEU THR TRP HIS

ARG LYS ASN LYS HIS VAL GLN GLU ALA ALA CYS TRP ALA LEU ASN ASN LEU LEU MET TYR GLN ASN SER LEU HIS GLU LYS ILE GLY ASP GLU ASP GLY HIS PHE PRO ALA HIS ARG GLU VAL MET LEU SER MET LEU MET HIS SER SER SER LYS GLU VAL PHE GLN ALA SER ALA ASN

ALA LEU SER THR LEU LEU GLU GLN ASN VAL ASN PHE ARG LYS ILE LEU LEU SER LYS GLY ILE HIS LEU ASN VAL LEU GLU LEU MET GLN LYS HIS ILE HIS SER PRO GLU VAL ALA GLU SER GLY CYS LYS MET LEU ASN HIS LEU PHE GLU GLY SER ASN THR SER LEU ASP ILE MET

ALA ALA VAL VAL PRO LYS ILE LEU THR VAL MET LYS ARG HIS GLU THR SER LEU PRO VAL GLN LEU GLU ALA LEU ARG ALA ILE LEU HIS PHE ILE VAL PRO GLY MET PRO GLU GLU SER ARG GLU ASP THR GLU PHE HIS HIS LYS LEU ASN MET VAL LYS LYS GLN CYS PHE LYS ASN

ASP ILE HIS LYS LEU VAL LEU ALA ALA LEU ASN ARG PHE ILE GLY ASN PRO GLY ILE GLN LYS CYS GLY LEU LYS VAL ILE SER SER ILE VAL HIS PHE PRO ASP ALA LEU GLU MET LEU SER LEU GLU GLY ALA MET ASP SER VAL LEU HIS THR LEU GLN MET TYR PRO ASP ASP GLN

GLU ILE GLN CYS LEU GLY LEU SER LEU ILE GLY TYR LEU ILE THR LYS LYS ASN VAL PHE ILE GLY THR GLY HIS LEU LEU ALA LYS ILE LEU VAL SER SER LEU TYR ARG PHE LYS ASP VAL ALA GLU ILE GLN THR LYS GLY PHE GLN THR ILE LEU ALA ILE LEU LYS LEU SER ALA

SER PHE SER LYS LEU LEU VAL HIS HIS SER PHE ASP LEU VAL ILE PHE HIS GLN MET SER SER ASN ILE MET GLU GLN LYS ASP GLN GLN PHE LEU ASN LEU CYS CYS LYS CYS PHE ALA LYS VAL ALA MET ASP ASP TYR LEU LYS ASN VAL MET LEU GLU ARG ALA CYS ASP GLN ASN

ASN SER ILE MET VAL GLU CYS LEU LEU LEU LEU GLY ALA ASP ALA ASN GLN ALA LYS GLU GLY SER SER LEU ILE CYS GLN VAL CYS GLU LYS GLU SER SER PRO LYS LEU VAL GLU LEU LEU LEU ASN SER GLY SER ARG GLU GLN ASP VAL ARG LYS ALA LEU THR ILE SER ILE GLY

LYS GLY ASP SER GLN ILE ILE SER LEU LEU LEU ARG ARG LEU ALA LEU ASP VAL ALA ASN ASN SER ILE CYS LEU GLY GLY PHE CYS ILE GLY LYS VAL GLU PRO SER TRP LEU GLY PRO LEU PHE PRO ASP LYS THR SER ASN LEU ARG LYS GLN THR ASN ILE ALA SER THR LEU ALA

ARG MET VAL ILE ARG TYR GLN MET LYS SER ALA VAL GLU GLN GLY THR ALA SER GLY SER ASP GLY ASN PHE SER GLU ASP VAL LEU SER LYS PHE ASP GLU TRP THR PHE ILE PRO ASP SER SER MET ASP SER VAL PHE ALA GLN SER ASP ASP LEU ASP SER GLU GLY SER GLU GLY

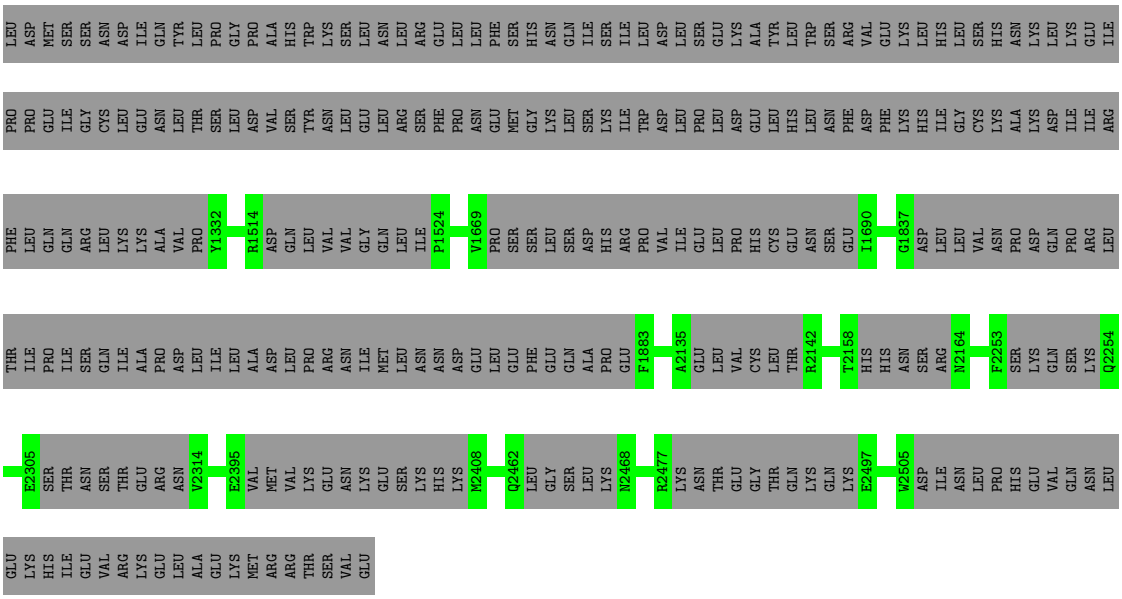
SER PHE LEU VAL LYS LYS LYS SER ASN SER ILE SER VAL GLY GLU PHE TYR ARG ASP ALA VAL LEU GLN ARG CYS SER PRO ASN LEU GLN ARG HIS SER ASN SER LEU GLY PRO ILE PHE ASP HIS GLU ASP LEU LEU LYS ARG LYS ARG LYS ILE LEU SER SER ASP ASP SER LEU ARG

SER SER LYS LEU GLN SER HIS MET ARG HIS SER ASP SER ILE SER SER LEU ALA SER GLU ARG GLU TYR ILE THR SER LEU ASP LEU SER ALA ASN GLU LEU ARG ASP ILE ASP ALA LEU SER GLN LYS CYS CYS ILE SER VAL HIS LEU GLU HIS LEU GLU LYS LEU GLU LEU HIS GLN

ASN ALA LEU THR SER PHE PRO GLN GLN LEU CYS GLU THR LEU LYS SER LEU THR HIS LEU ASP LEU HIS SER ASN LYS PHE THR SER PHE PRO SER TYR LEU LEU LYS MET SER CYS ILE ALA ASN LEU ASP VAL SER ARG ASN ASP ILE GLY PRO SER VAL VAL LEU ASP PRO THR VAL

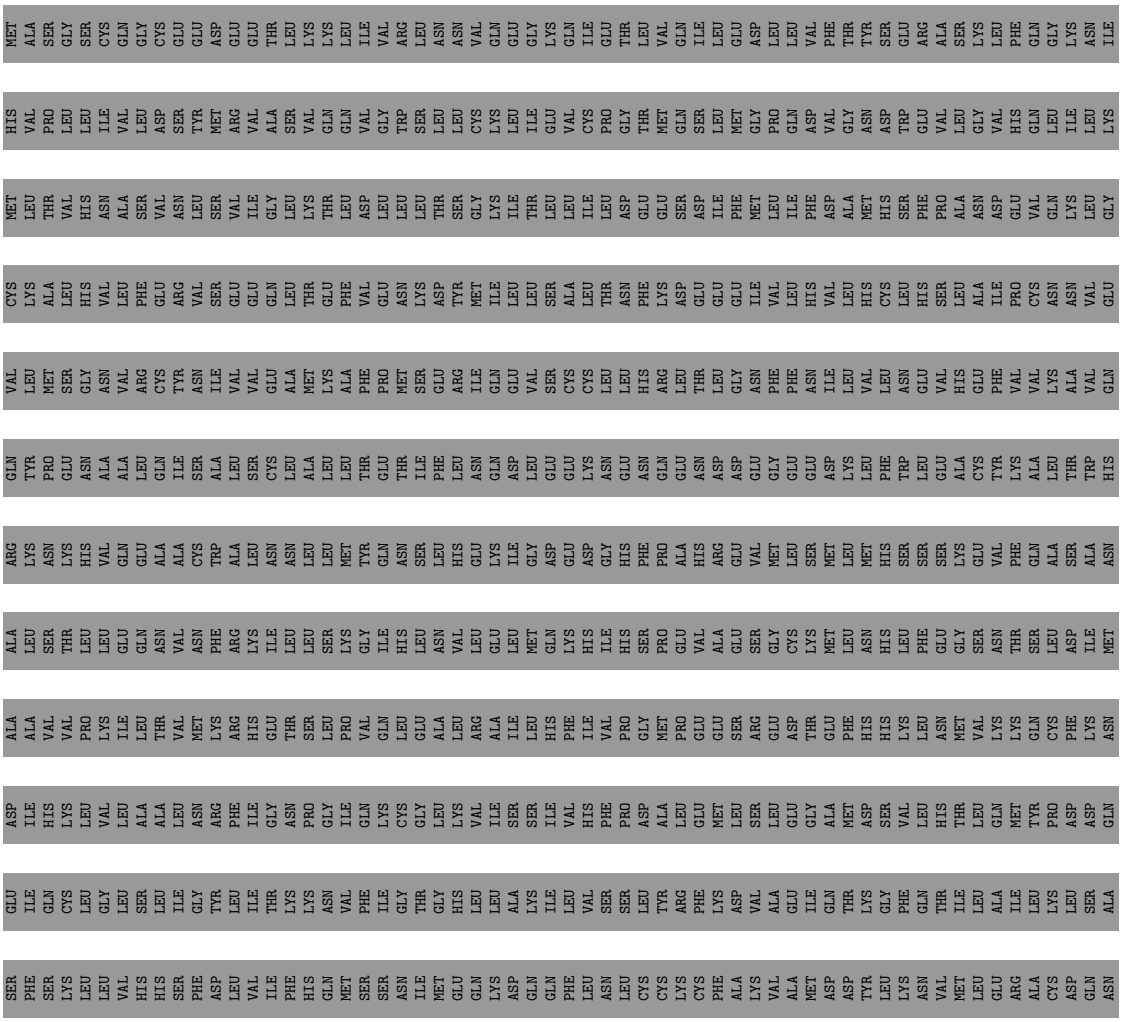
LYS CYS PRO THR LEU LYS GLN PHE ASN LEU SER TYR ASN GLN LEU SER PHE VAL PRO GLU ASN LEU THR ASP VAL VAL GLU LYS LEU GLU GLN LEU ILE LEU GLU GLY ASN LYS ILE SER GLY ILE CYS SER PRO LEU ARG LEU LYS GLU LEU LYS ILE LEU ASN LEU SER LYS ASN HIS

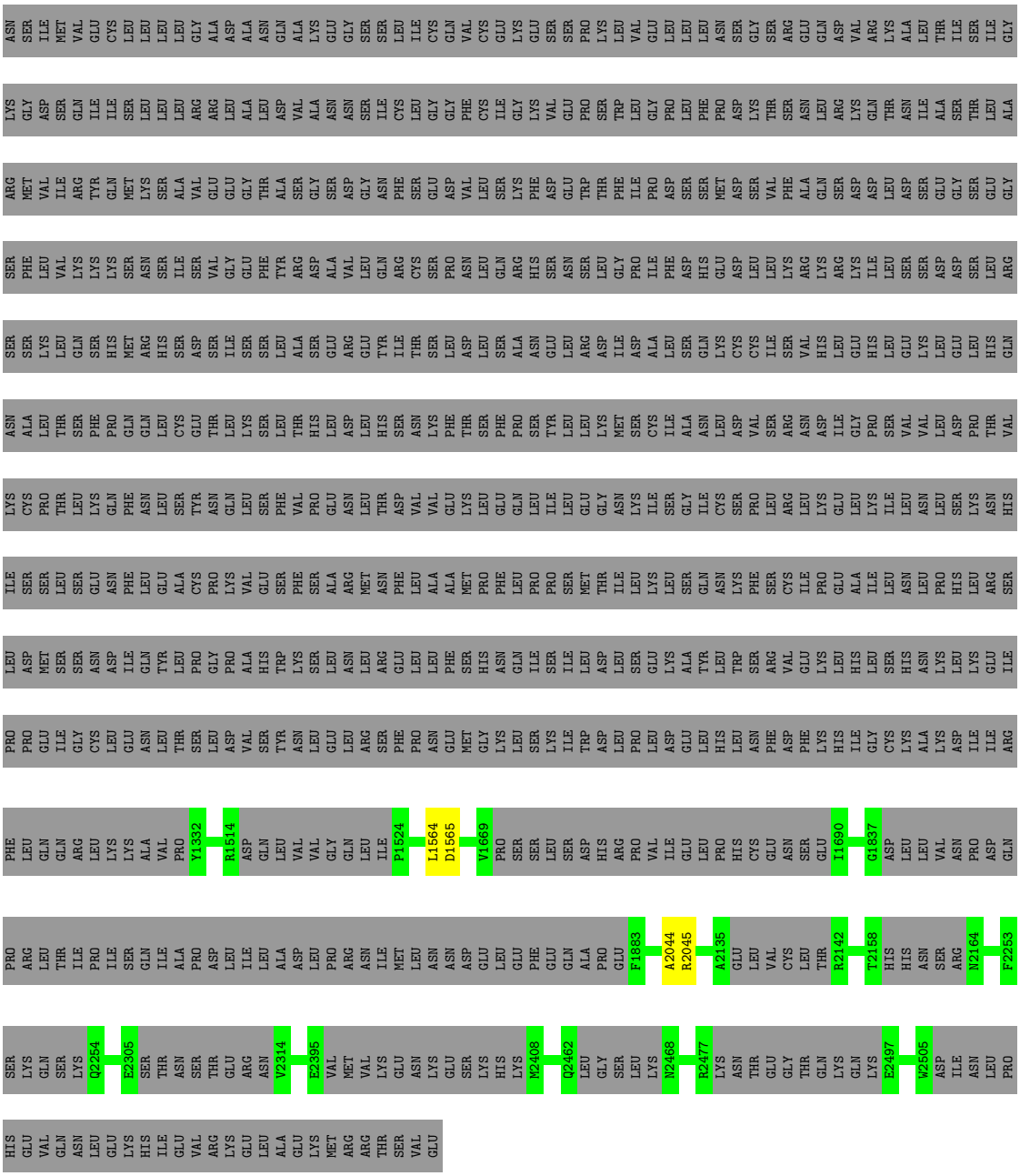
ILE SER SER LEU SER GLU ASN PHE LEU GLU ALA CYS PRO LYS VAL GLU SER PHE SER ALA ARG MET ASN PHE LEU ALA ALA MET PRO PHE LEU PRO PRO SER MET THR ILE LEU LYS LEU SER GLN ASN LYS PHE SER CYS ILE PRO GLU ALA ILE LEU ASN LEU PRO HIS LEU ARG SER



• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

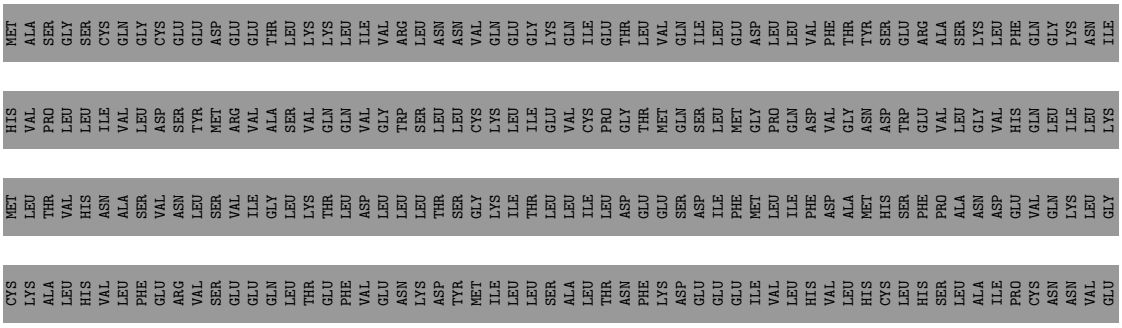
Chain 2-B:

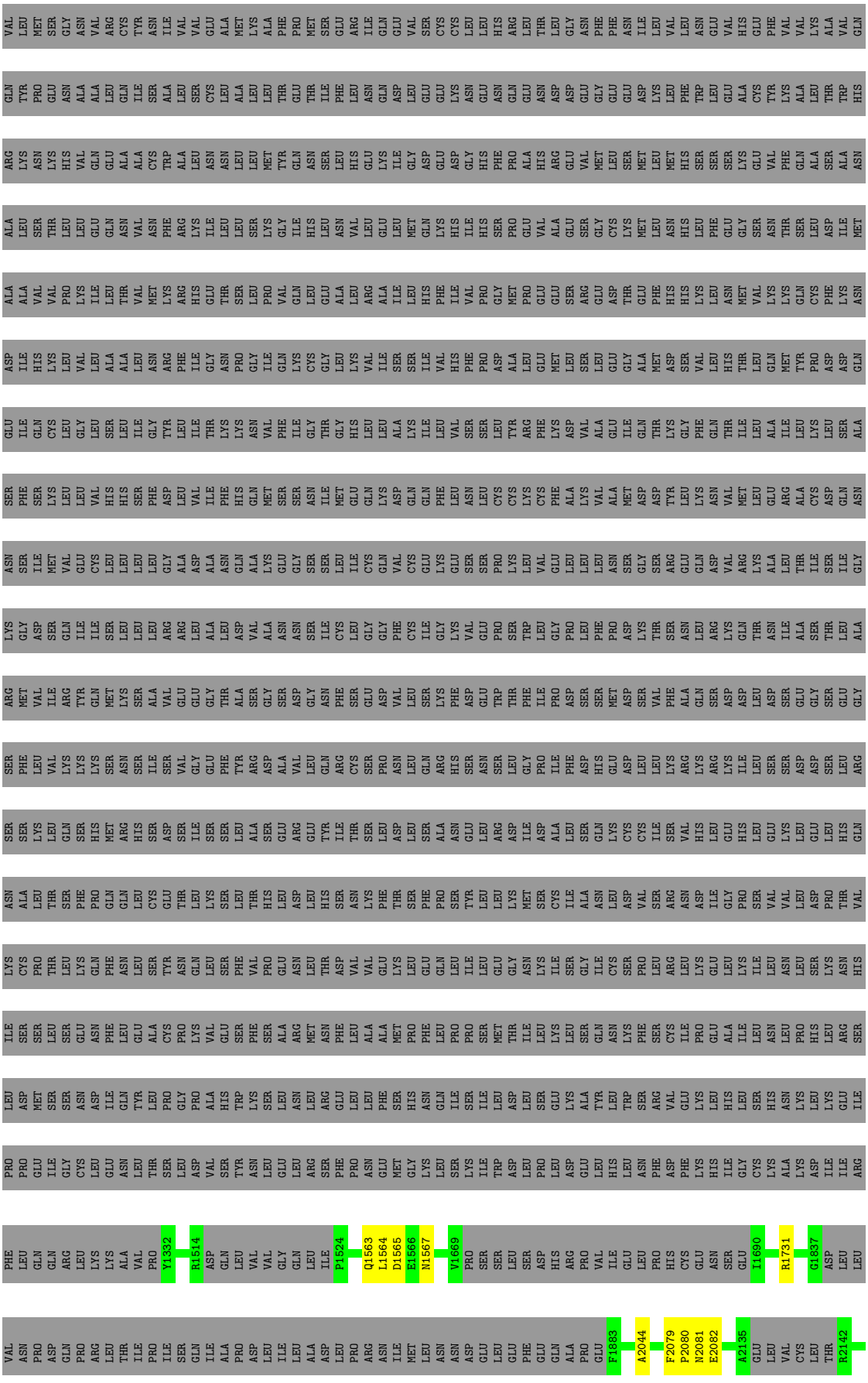




• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

Chain 3-A:

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L1564
D1565
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N1567
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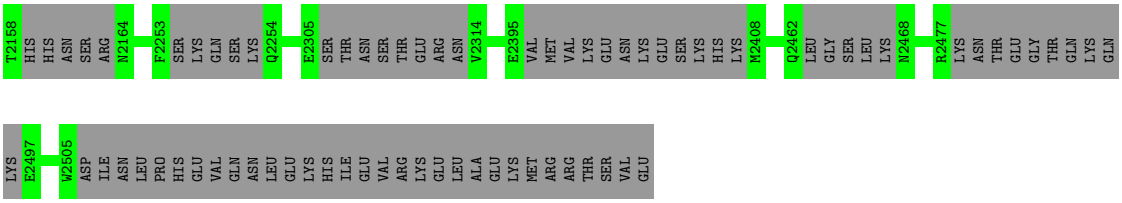
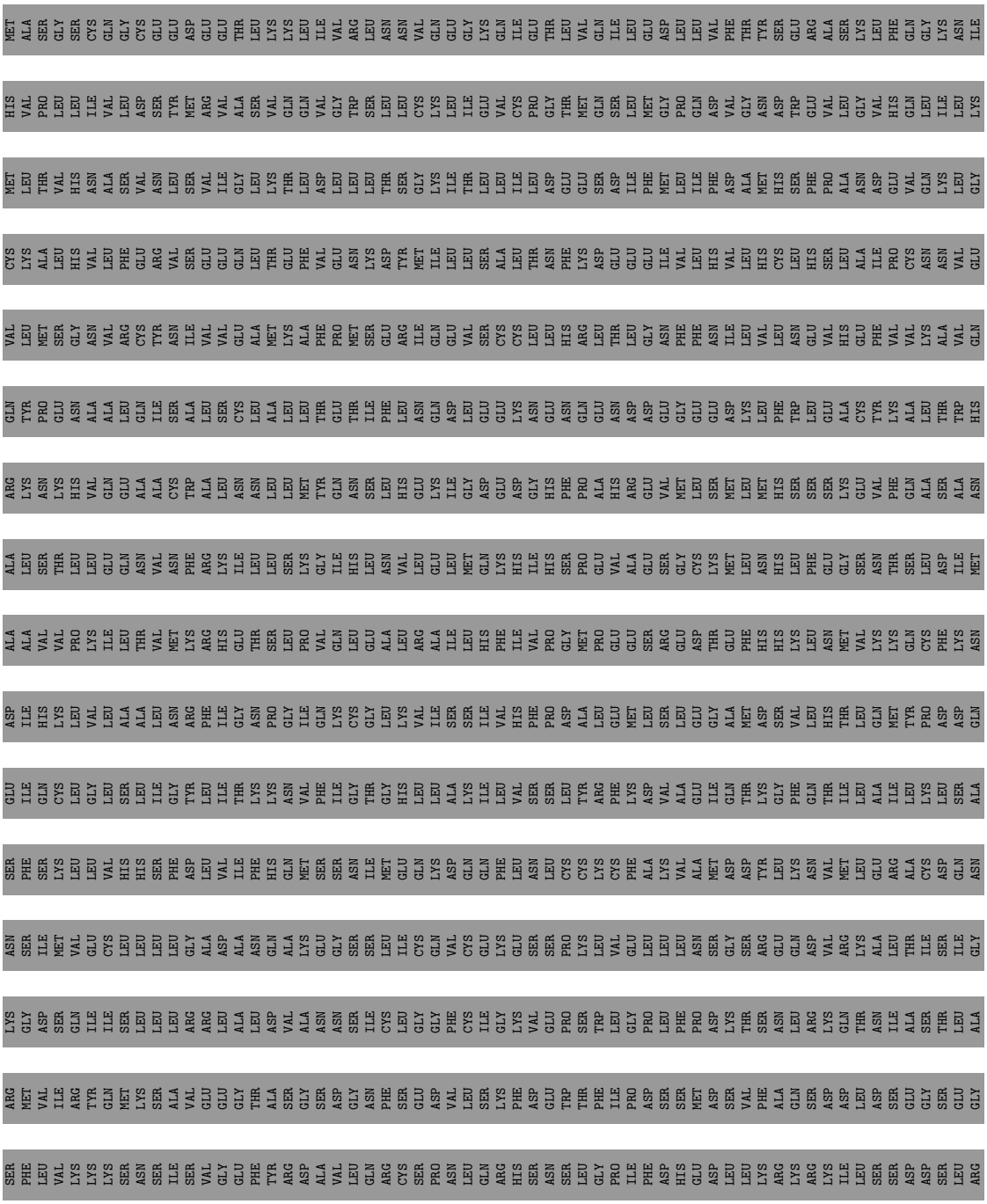
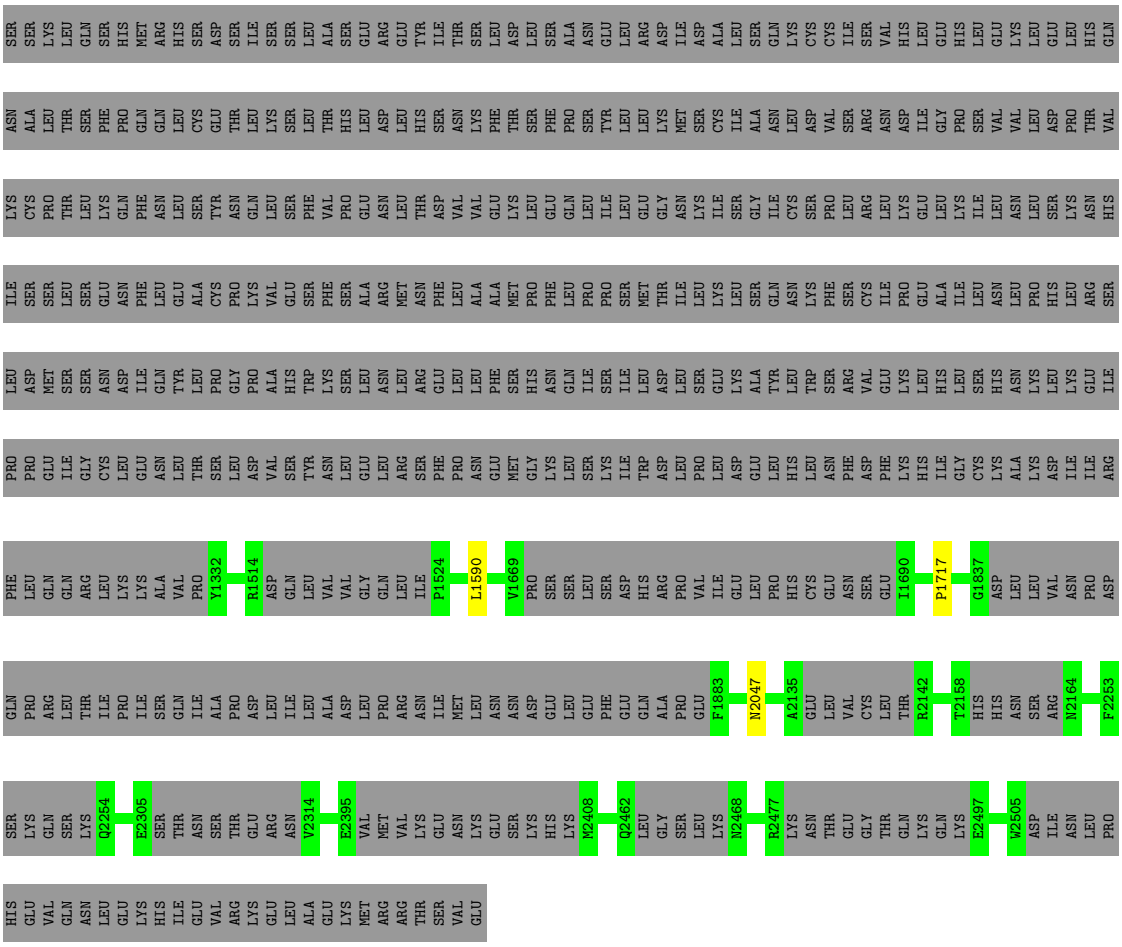
R2142



• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

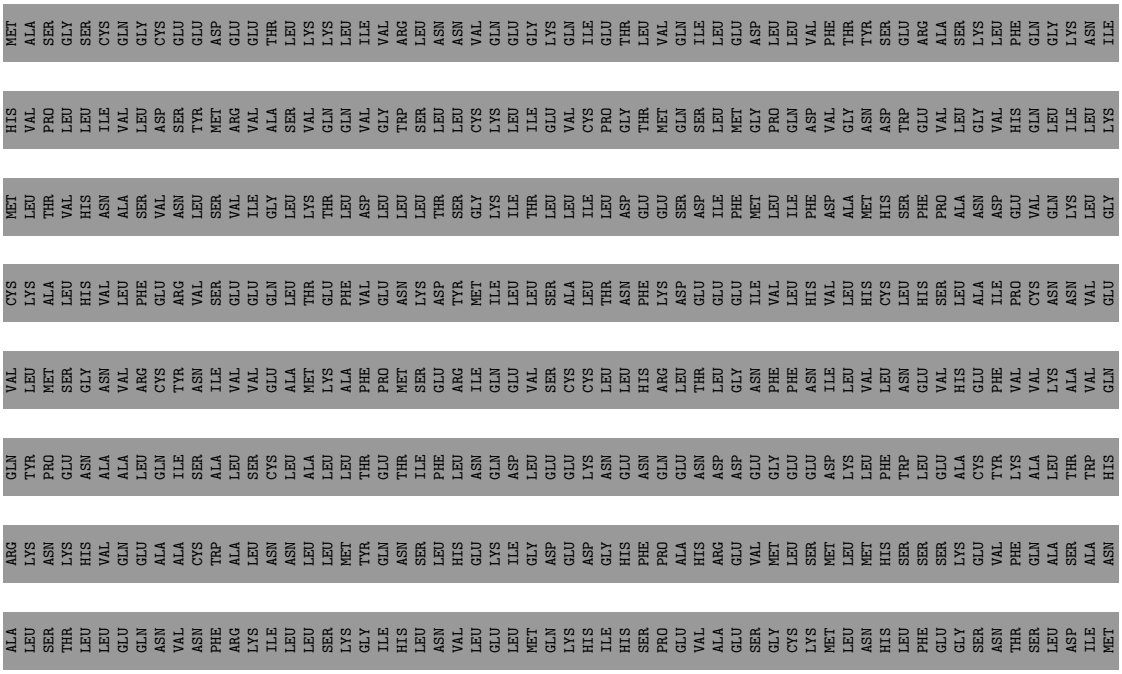
Chain 3-B:

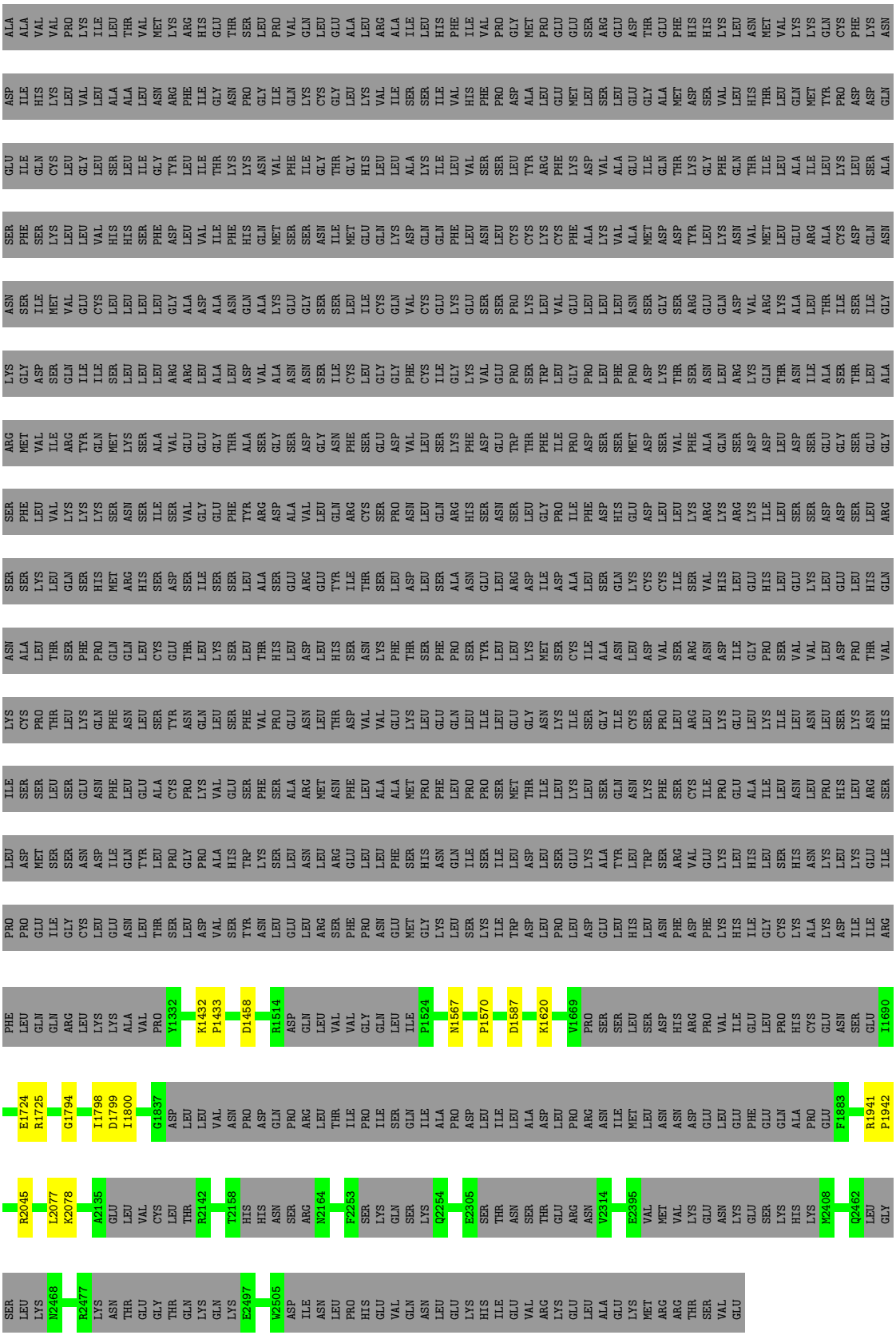




• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

Chain 4-A: 40% • 59%





• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

Chain 4-B: 41% 59%

MET ALA SER GLY SER CYS GLN GLY CYS GLU GLU ASP GLU GLU THR LEU LYS LYS LEU ILE VAL ARG LEU ASN ASN VAL GLN GLU GLY LYS GLN ILE GLU THR LEU VAL GLN ILE LEU GLU ASP LEU LEU VAL PHE THR TYR SER GLU ARG ALA SER LYS LEU PHE GLN GLY LYS ASN ILE

HIS VAL PRO LEU LEU ILE VAL LEU ASP SER TYR MET ARG VAL ALA SER VAL GLN GLN VAL GLY TRP SER LEU LEU CYS LYS LEU ILE GLU VAL CYS PRO GLY THR MET GLN SER LEU MET GLY PRO GLN ASP VAL GLY ASN ASP TRP GLU VAL LEU GLY VAL HIS GLN LEU ILE LEU LYS

MET LEU THR VAL HIS ASN ALA SER VAL ASN LEU SER VAL ILE GLY LEU LYS THR LEU ASP LEU LEU LEU THR SER GLY LYS ILE THR LEU LEU ILE LEU ASP GLU GLU SER ASP ILE PHE MET LEU ILE PHE ASP ALA MET HIS SER PHE PRO ALA ASN ASP GLU VAL GLN LYS LEU GLY

CYS LYS ALA LEU HIS VAL LEU PHE GLU ARG VAL SER GLU GLU GLN LEU THR GLU PHE VAL GLU ASN LYS ASP TYR MET ILE LEU LEU SER ALA LEU THR ASN PHE LYS ASP GLU GLU GLU ILE VAL LEU HIS VAL LEU HIS CYS LEU HIS SER LEU ALA ILE PRO CYS ASN ASN VAL GLU

VAL LEU MET SER GLY ASN VAL ARG CYS TYR ASN ILE VAL VAL GLU ALA MET LYS ALA PHE PRO MET SER GLU ARG ILE GLN GLU VAL SER CYS CYS LEU LEU HIS ARG LEU THR LEU GLY ASN PHE PHE ASN ILE LEU VAL LEU ASN GLU VAL HIS GLU PHE VAL VAL LYS ALA VAL GLN

GLN TYR PRO GLU ASN ALA ALA LEU GLN ILE SER ALA LEU SER CYS LEU ALA LEU LEU THR GLU THR ILE PHE LEU ASN GLN ASP LEU GLU GLU LYS ASN GLU ASN GLN GLU ASN ASP ASP GLU GLY GLU GLU ASP LYS LEU PHE TRP LEU GLU ALA CYS TYR LYS ALA LEU THR TRP HIS

ARG LYS ASN LYS HIS VAL GLN GLU ALA ALA CYS TRP ALA LEU ASN ASN LEU LEU MET TYR GLN ASN SER LEU HIS GLU LYS ILE GLY ASP GLU ASP GLY HIS PHE PRO ALA HIS ARG GLU VAL MET LEU SER MET LEU MET HIS SER SER SER LYS GLU VAL PHE GLN ALA SER ALA ASN

ALA LEU SER THR LEU LEU GLU GLN ASN VAL ASN PHE ARG LYS ILE LEU LEU SER LYS GLY ILE HIS LEU ASN VAL LEU GLU LEU MET GLN LYS HIS ILE HIS SER PRO GLU VAL ALA GLU SER GLY CYS LYS MET LEU ASN HIS LEU PHE GLU GLY SER ASN THR SER LEU ASP ILE MET

ALA ALA VAL VAL PRO LYS ILE LEU THR VAL MET LYS ARG HIS GLU THR SER LEU PRO VAL GLN LEU GLU ALA LEU ARG ALA ILE LEU HIS PHE ILE VAL PRO GLY MET PRO GLU GLU SER ARG GLU ASP THR GLU PHE HIS HIS LYS LEU ASN MET VAL LYS LYS GLN CYS PHE LYS ASN

ASP ILE HIS LYS LEU VAL LEU ALA ALA LEU ASN ARG PHE ILE GLY ASN PRO GLY ILE GLN LYS CYS GLY LEU LYS VAL ILE SER SER ILE VAL HIS PHE PRO ASP ALA LEU GLU MET LEU SER LEU GLU GLY ALA MET ASP SER VAL LEU HIS THR LEU GLN MET TYR PRO ASP ASP GLN

GLU ILE GLN CYS LEU GLY LEU SER LEU ILE GLY TYR LEU ILE THR LYS LYS ASN VAL PHE ILE GLY THR GLY HIS LEU LEU ALA LYS ILE LEU VAL SER SER LEU TYR ARG PHE LYS ASP VAL ALA GLU ILE GLN THR LYS GLY PHE GLN THR ILE LEU ALA ILE LEU LYS LEU SER ALA

SER PHE SER LYS LEU LEU VAL HIS HIS SER PHE ASP LEU VAL ILE PHE HIS GLN MET SER SER ASN ILE MET GLU GLN LYS ASP GLN GLN PHE LEU ASN LEU CYS CYS LYS CYS PHE ALA LYS VAL ALA MET ASP ASP TYR LEU LYS ASN VAL MET LEU GLU ARG ALA CYS ASP GLN ASN

ASN SER ILE MET VAL GLU CYS LEU LEU LEU LEU GLY ALA ASP ALA ASN GLN ALA LYS GLU GLY SER SER LEU ILE CYS GLN VAL CYS GLU LYS GLU SER SER PRO LYS LEU VAL GLU LEU LEU LEU ASN SER GLY SER ARG GLU GLN ASP VAL ARG LYS ALA LEU THR ILE SER ILE GLY

LYS GLY ASP SER GLN ILE ILE SER LEU LEU LEU ARG ARG LEU ALA LEU ASP VAL ALA ASN ASN SER ILE CYS LEU GLY GLY PHE CYS ILE GLY LYS VAL GLU PRO SER TRP LEU GLY PRO LEU PHE PRO ASP LYS THR SER ASN LEU ARG LYS GLN THR ASN ILE ALA SER THR LEU ALA

ARG MET VAL ILE ARG TYR GLN MET LYS SER ALA VAL GLU GLN GLY THR ALA SER GLY SER ASP GLY ASN PHE SER GLU ASP VAL LEU SER LYS PHE ASP GLU TRP THR PHE ILE PRO ASP SER SER MET ASP SER VAL PHE ALA GLN SER ASP ASP LEU ASP SER GLU GLY SER GLU GLY

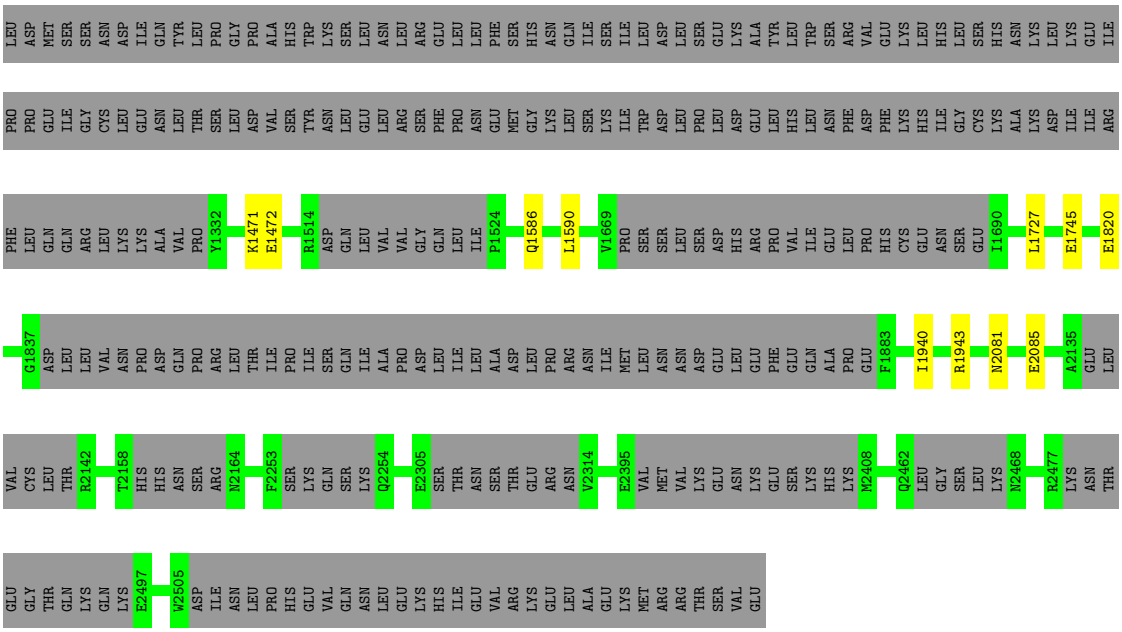
SER PHE LEU VAL LYS LYS LYS SER ASN SER ILE SER VAL GLY GLU PHE TYR ARG ASP ALA VAL LEU GLN ARG CYS SER PRO ASN LEU GLN ARG HIS SER ASN SER LEU GLY PRO ILE PHE ASP HIS GLU ASP LEU LEU LYS ARG LYS ARG LYS ILE LEU SER SER ASP ASP SER LEU ARG

SER SER LYS LEU GLN SER HIS MET ARG HIS SER ASP SER ILE SER SER LEU ALA SER GLU ARG GLU TYR ILE THR SER LEU ASP LEU SER ALA ASN GLU LEU ARG ASP ILE ASP ALA LEU SER GLN LYS CYS CYS ILE SER VAL HIS LEU GLU HIS LEU GLU LYS LEU GLU LEU HIS GLN

ASN ALA LEU THR SER PHE PRO GLN GLN LEU CYS GLU THR LEU LYS SER LEU THR HIS LEU ASP LEU HIS SER ASN LYS PHE THR SER PHE PRO SER TYR LEU LEU LYS MET SER CYS ILE ALA ASN LEU ASP VAL SER ARG ASN ASP ILE GLY PRO SER VAL VAL LEU ASP PRO THR VAL

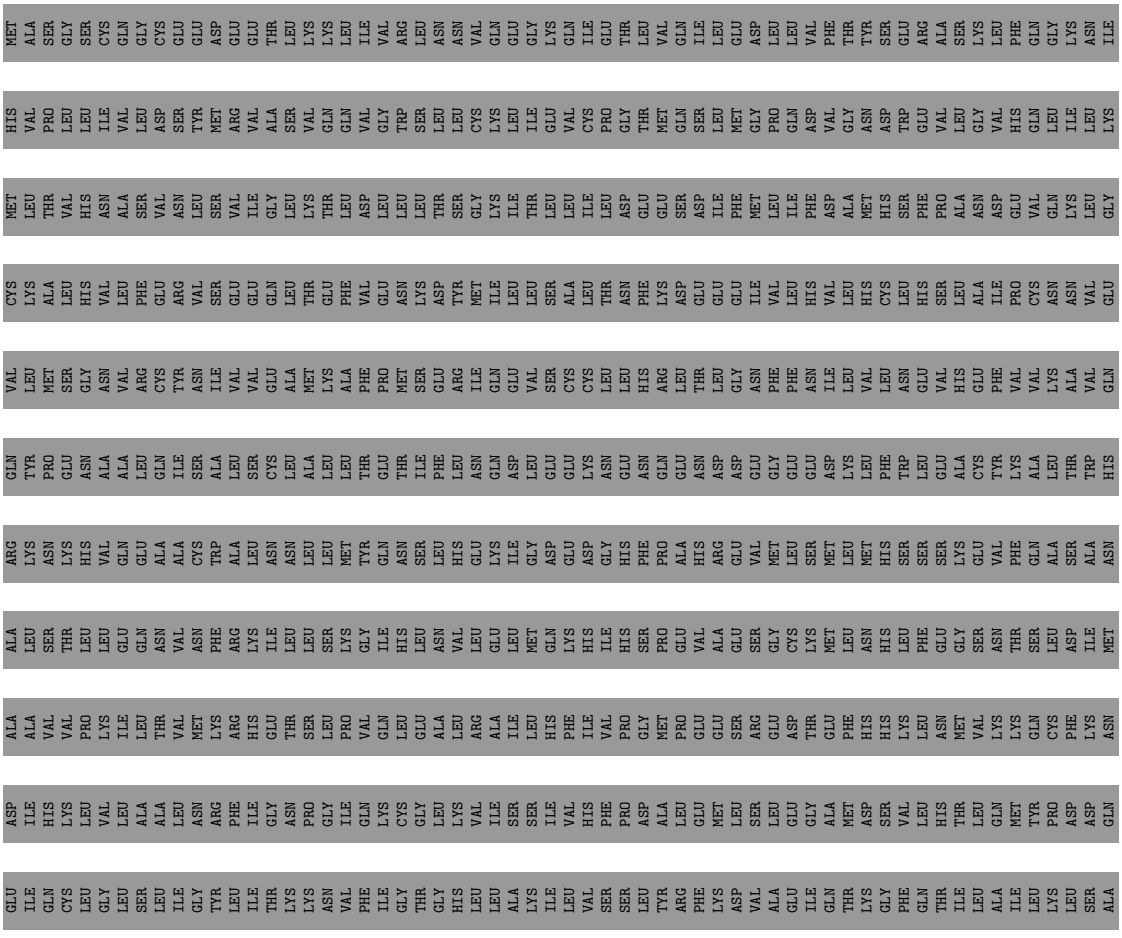
LYS CYS PRO THR LEU LYS GLN PHE ASN LEU SER TYR ASN GLN LEU SER PHE VAL PRO GLU ASN LEU THR ASP VAL VAL GLU LYS LEU GLU GLN LEU ILE LEU GLU GLY ASN LYS ILE SER GLY ILE CYS SER PRO LEU ARG LEU LYS GLU LEU LYS ILE LEU ASN LEU SER LYS ASN HIS

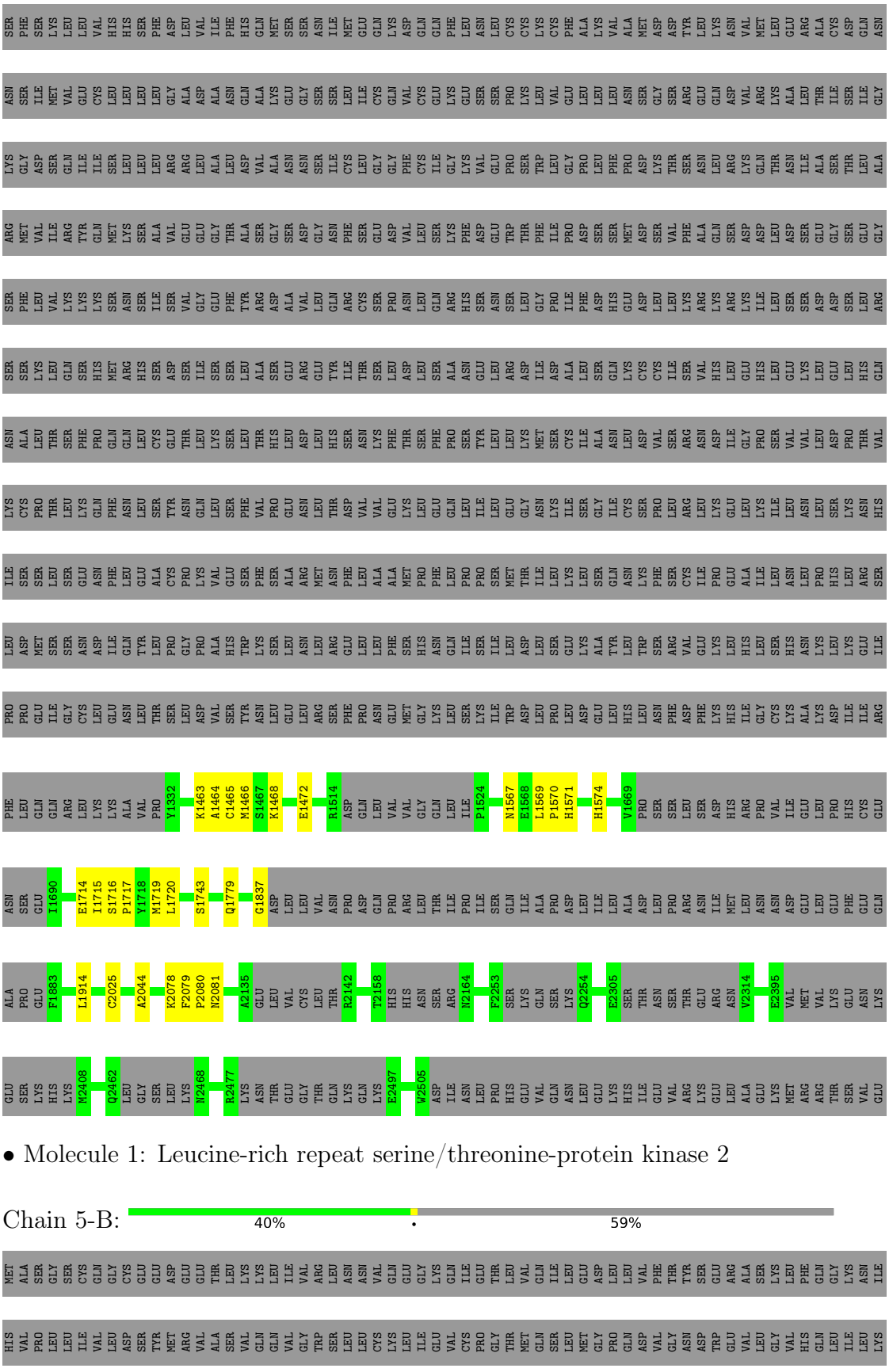
ILE SER SER LEU SER GLU ASN PHE LEU GLU ALA CYS PRO LYS VAL GLU SER PHE SER ALA ARG MET ASN PHE LEU ALA ALA MET PRO PHE LEU PRO PRO SER MET THR ILE LEU LYS LEU SER GLN ASN LYS PHE SER CYS ILE PRO GLU ALA ILE LEU ASN LEU PRO HIS LEU ARG SER



• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

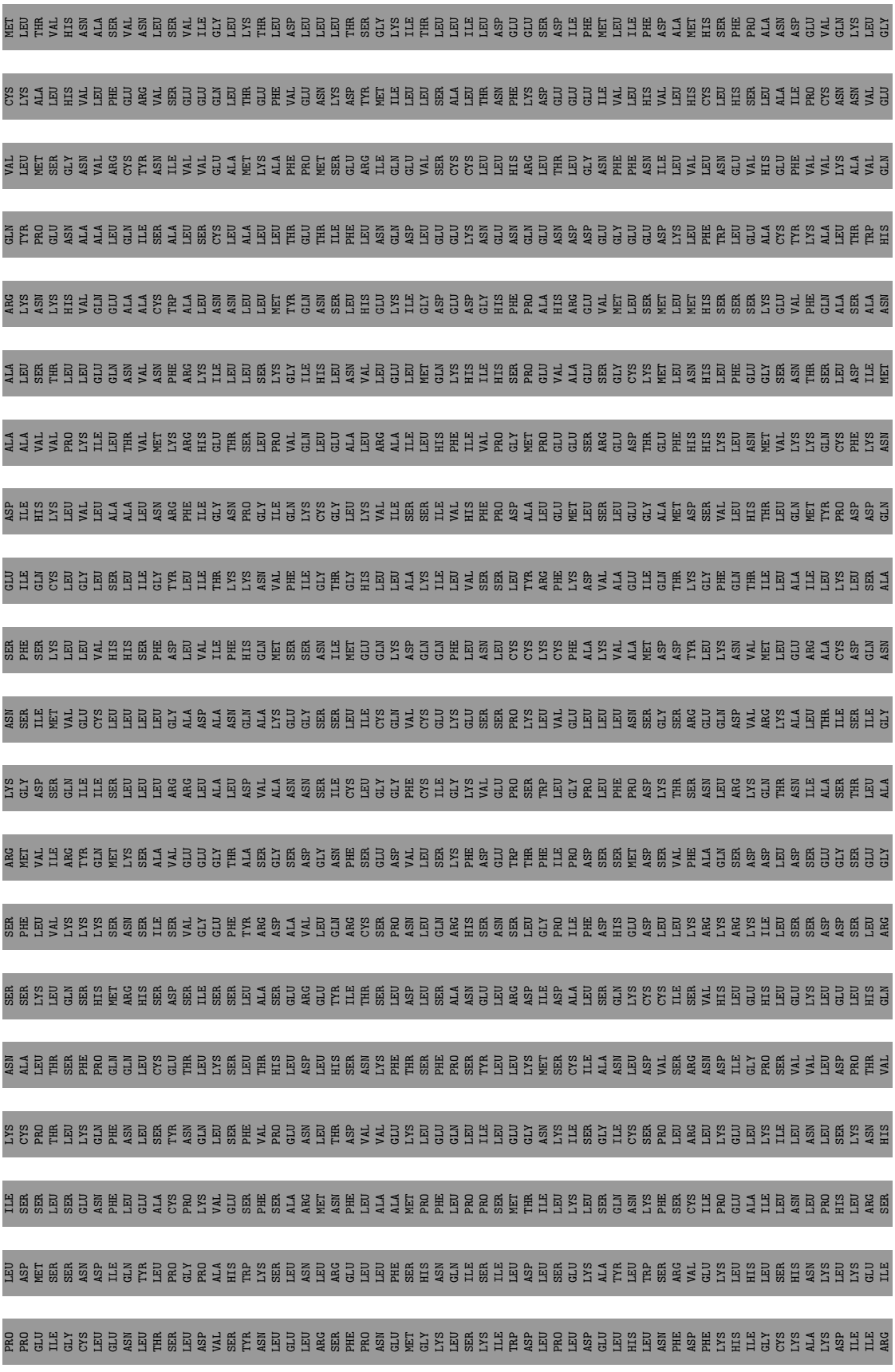
Chain 5-A:

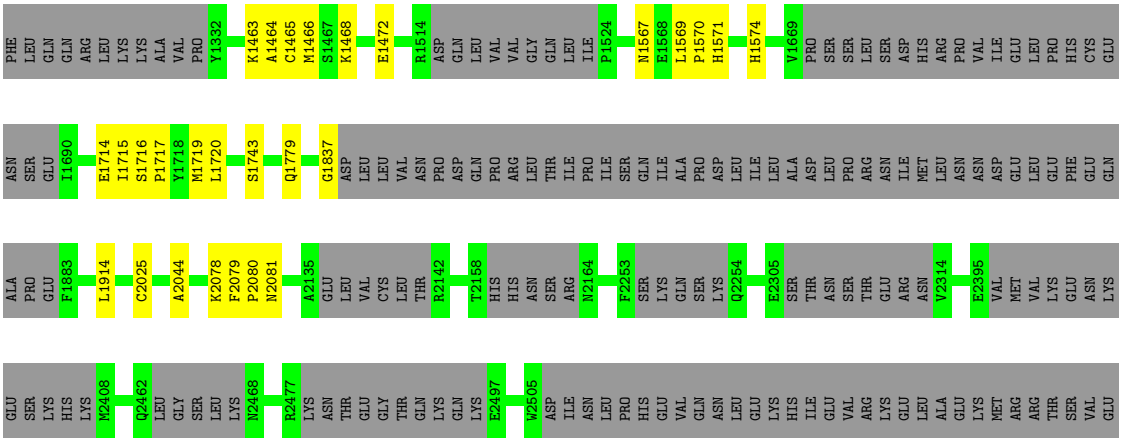




• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

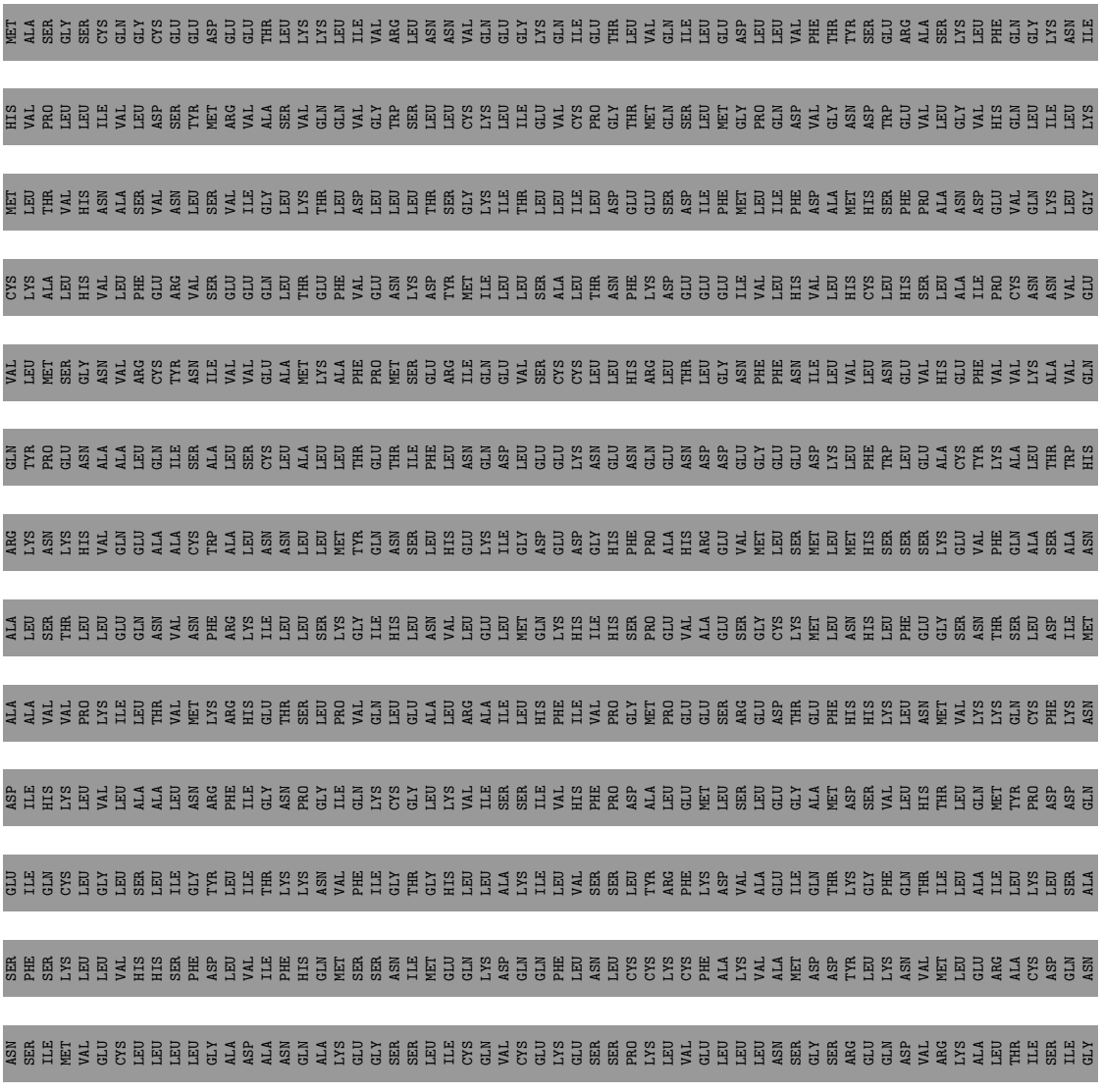
Chain 5-B:

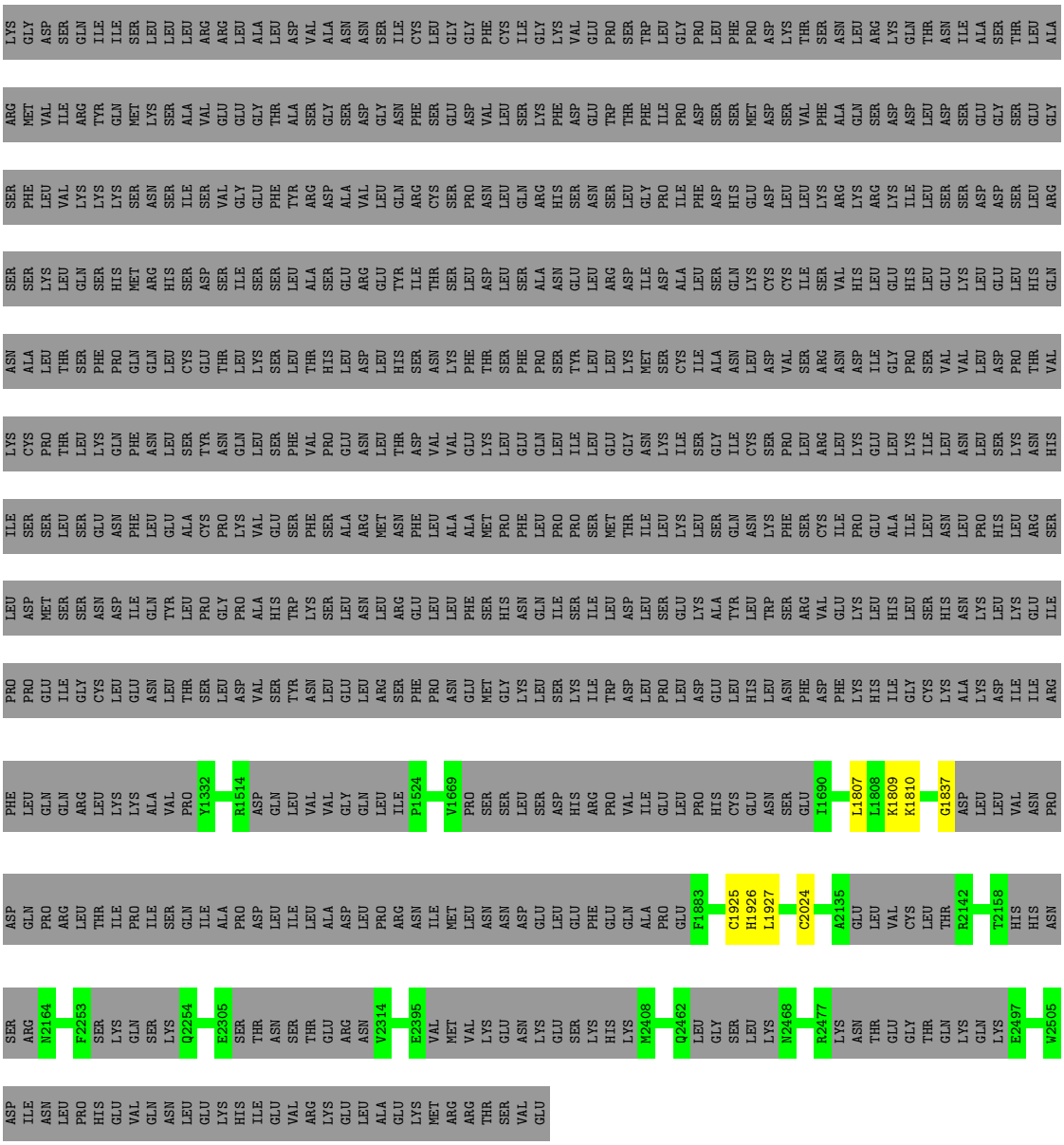




• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

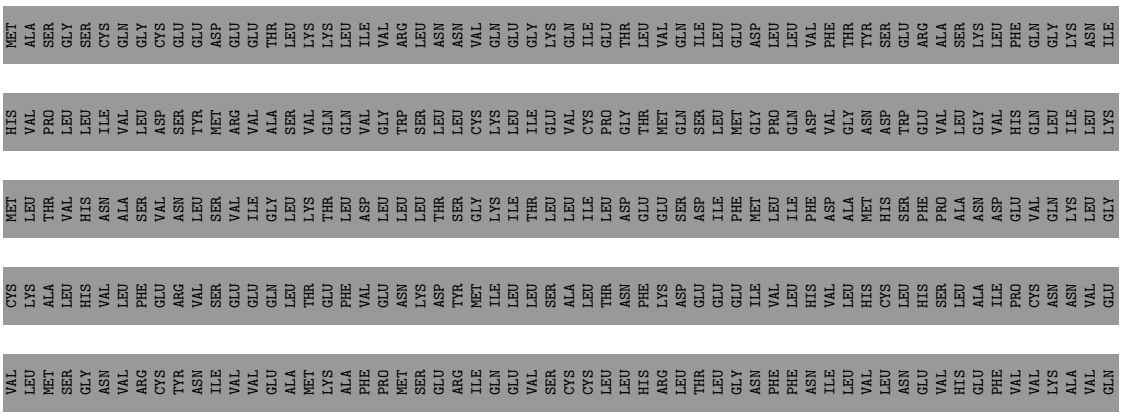
Chain 6-A: 41% 59%

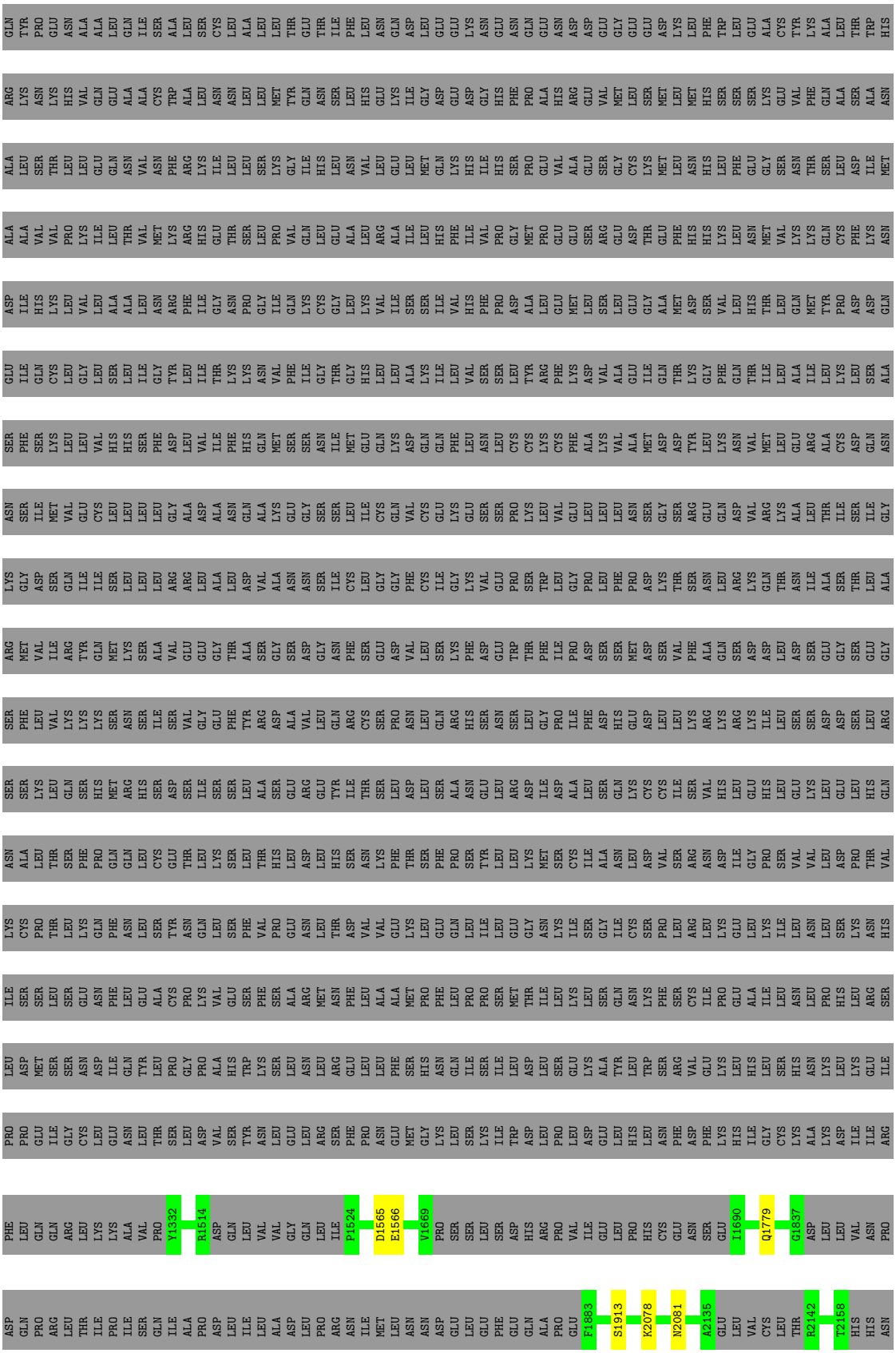




• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

Chain 6-B:

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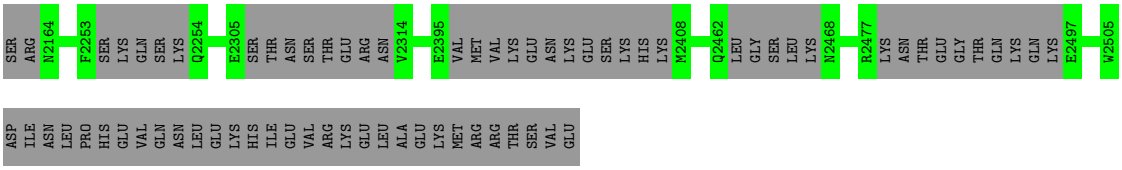
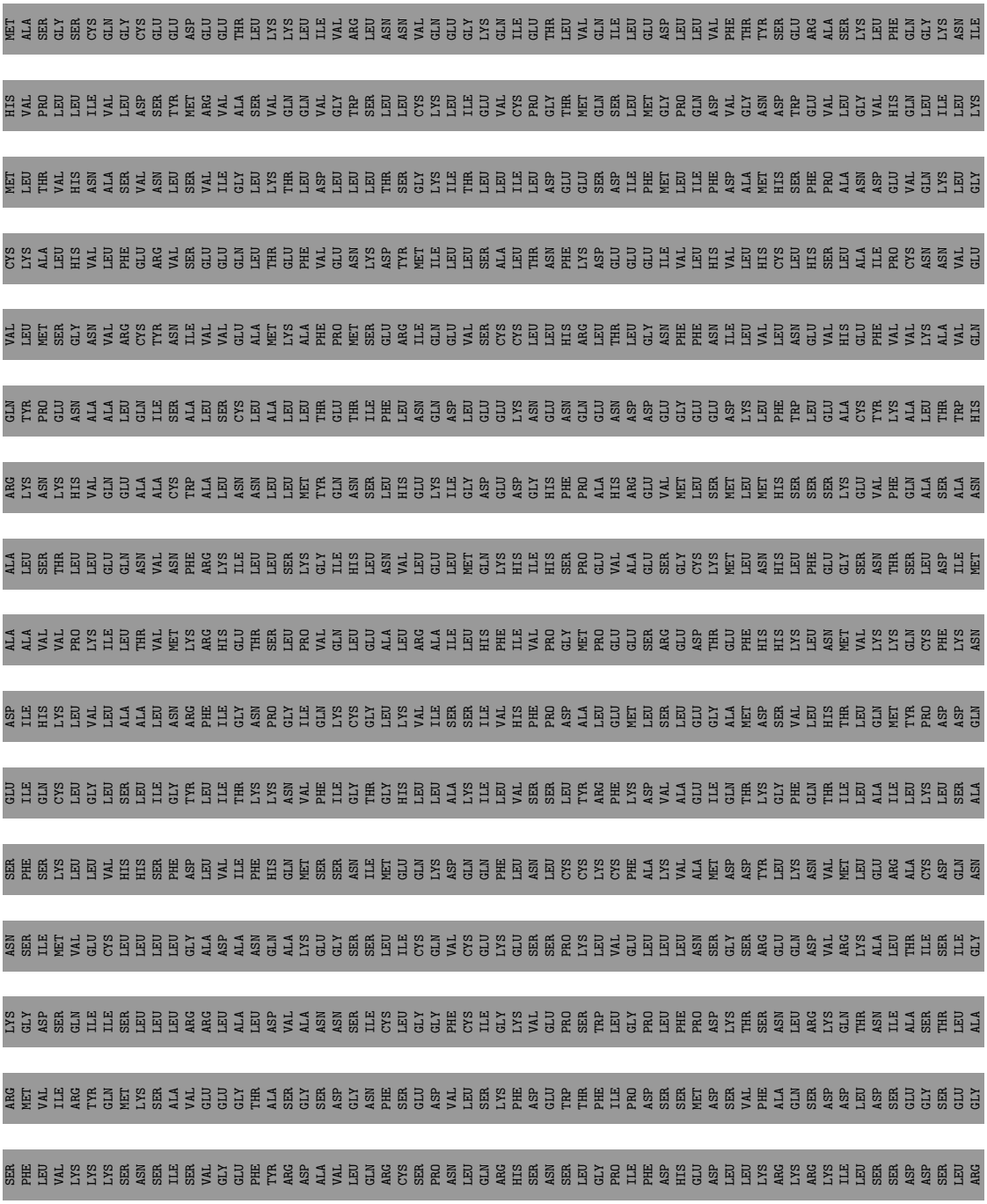
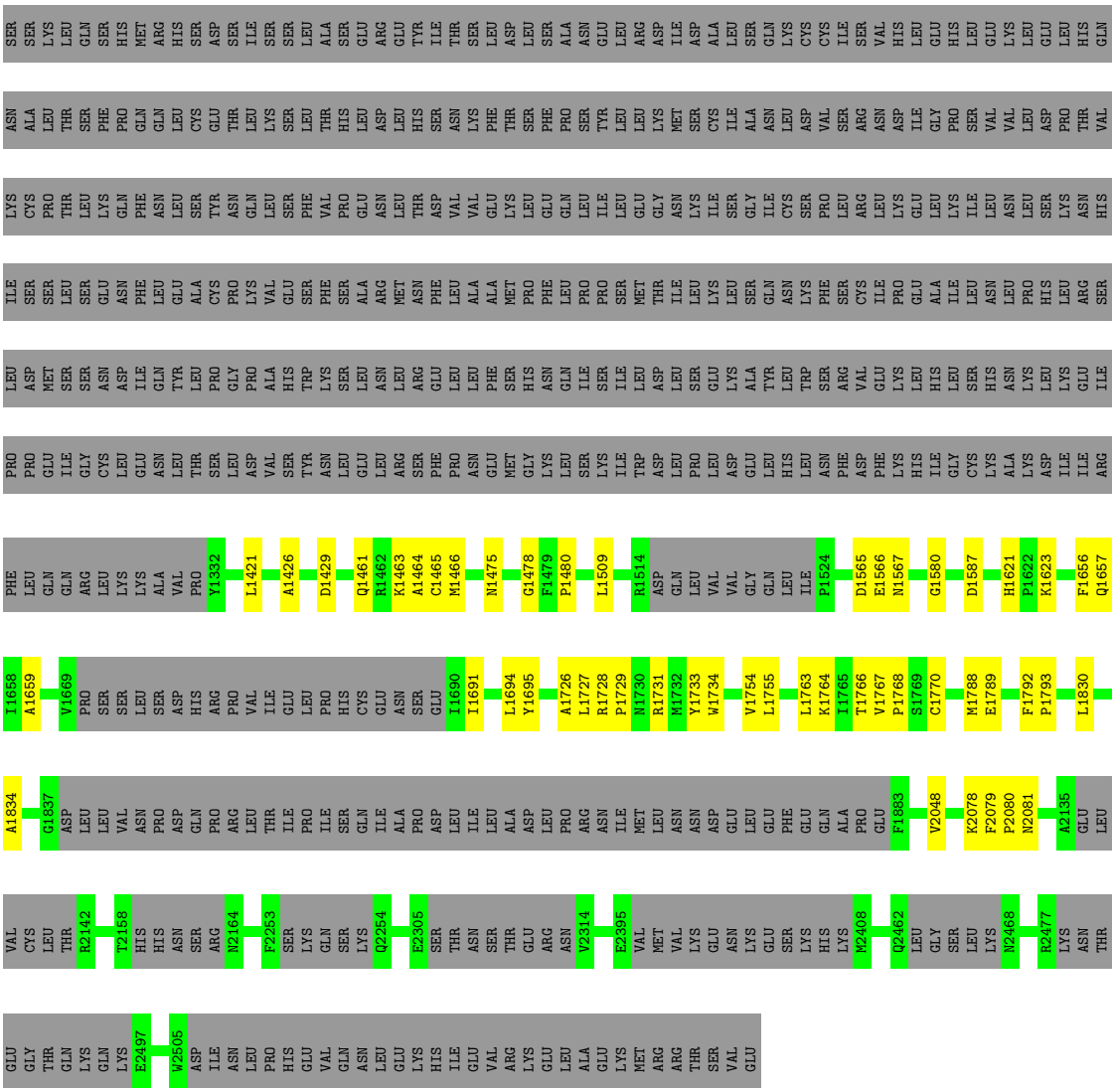


• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

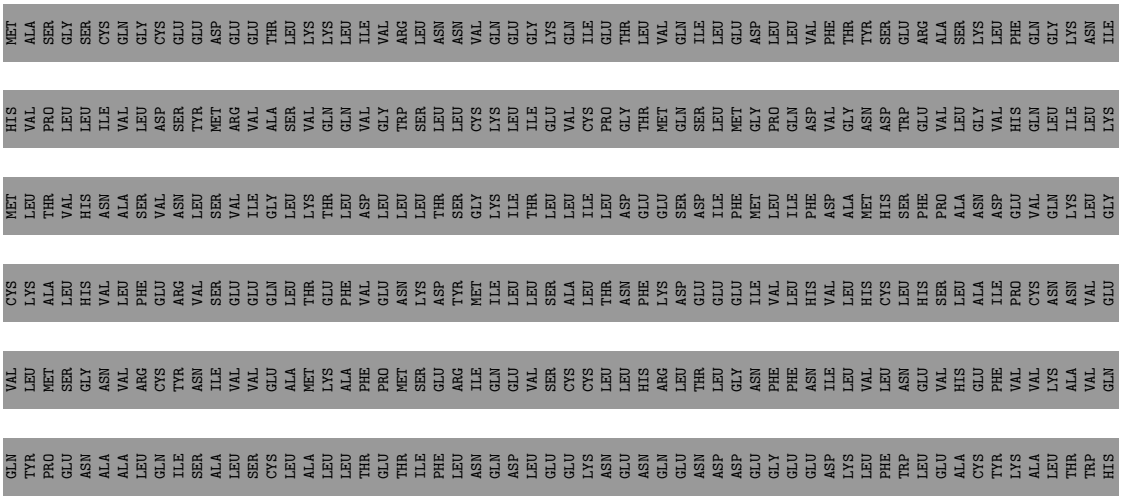
Chain 7-A: 39% 59%

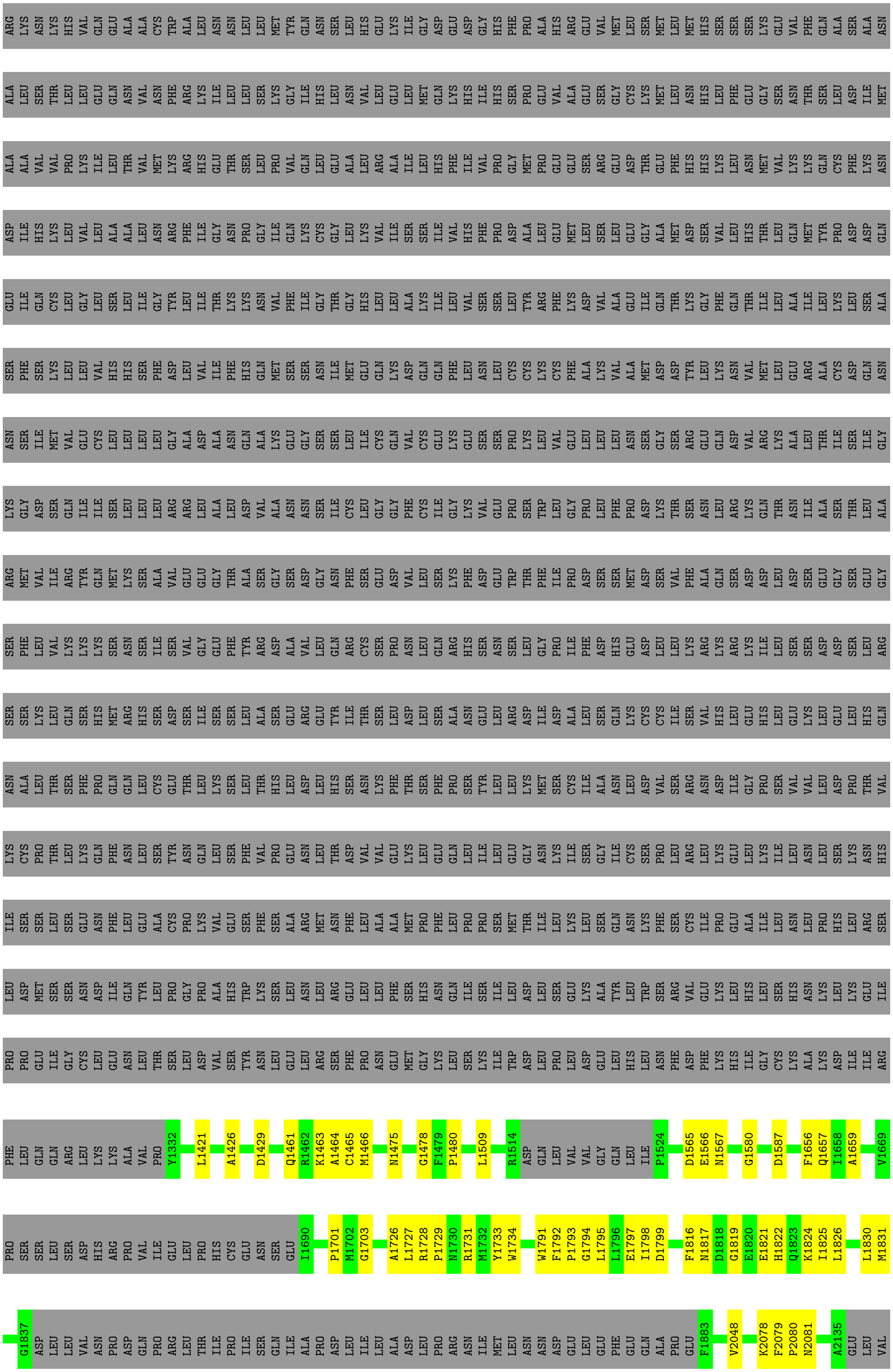




• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

Chain 7-B:

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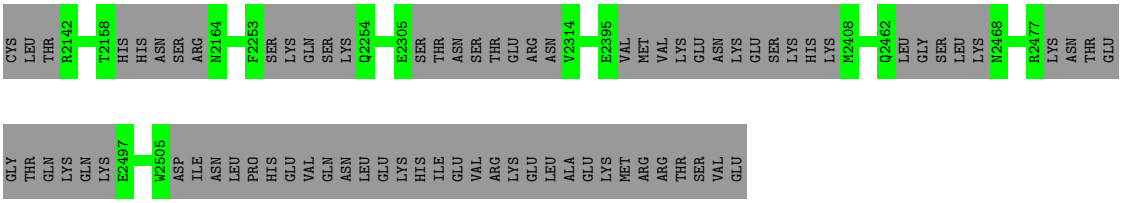
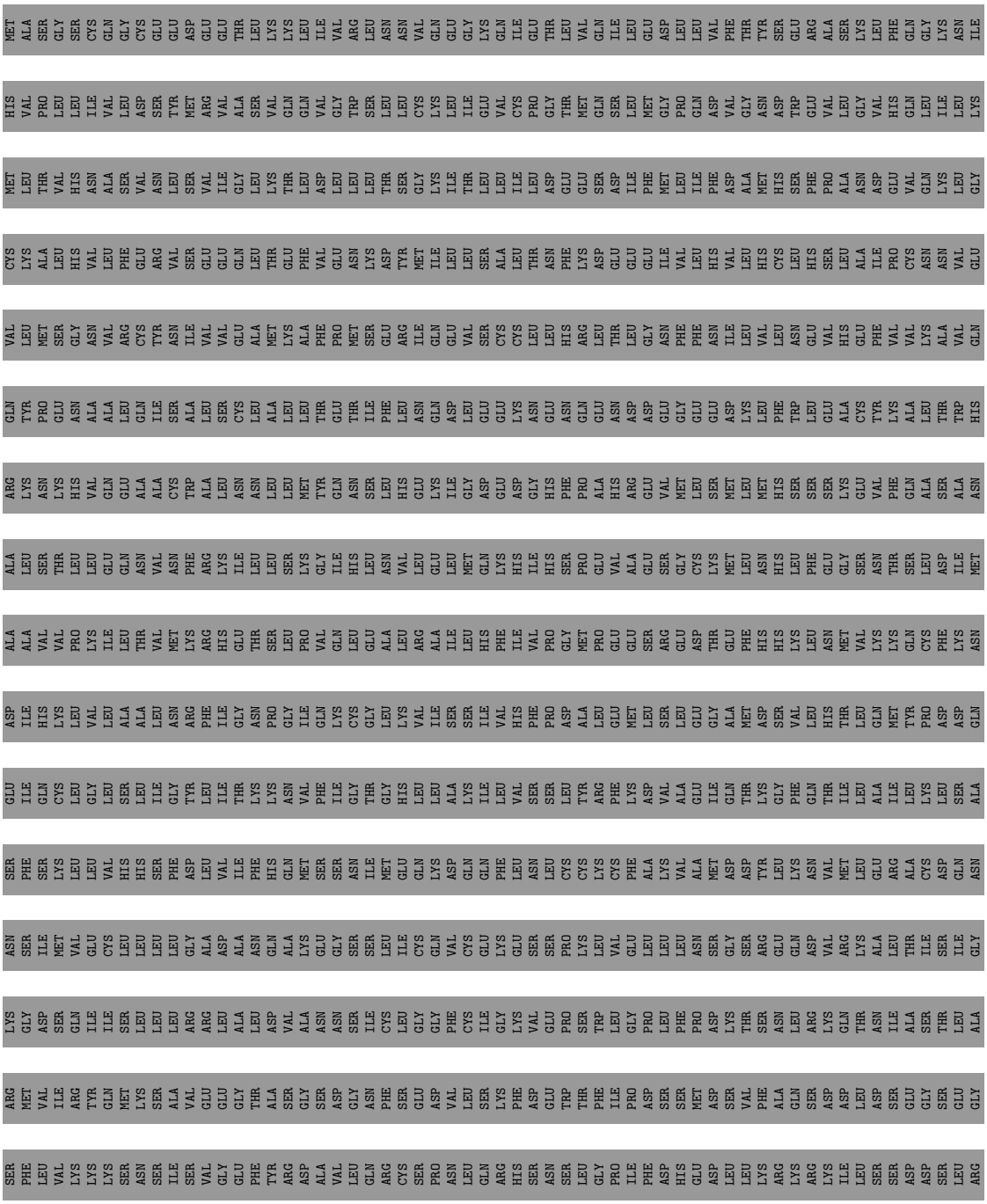
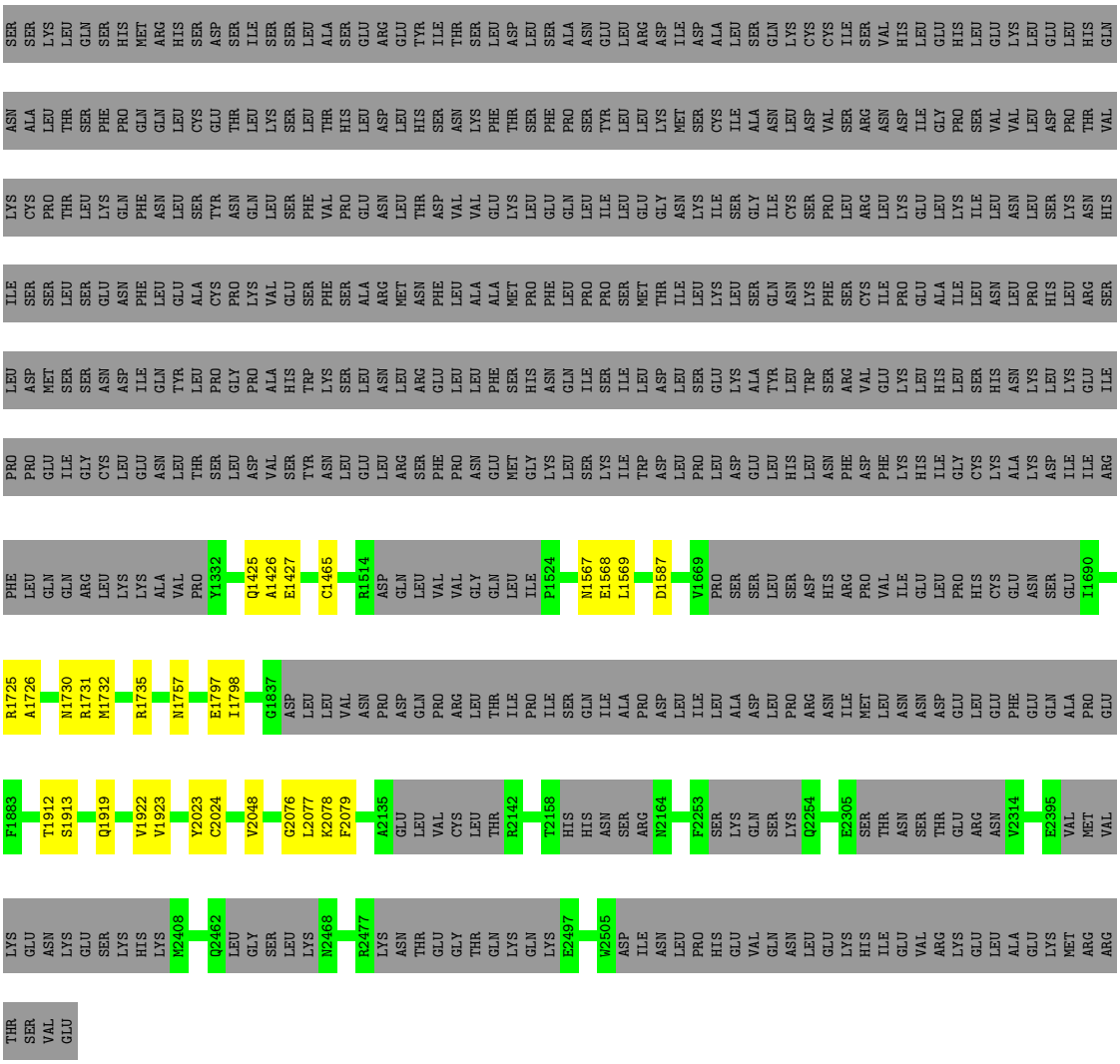
ALA LEU SER THR LEU LEU GLU GLN ASN VAL ASN PHE ARG LYS ILE LEU LEU SER LYS GLY ILE HIS LEU ASN VAL LEU GLU LEU MET GLN LYS HIS ILE HIS SER PRO GLU VAL ALA GLU SER GLY CYS LYS MET LEU ASN HIS LEU PHE GLU GLY SER ASN THR SER LEU ASP ILE MET
ALA ALA VAL VAL PRO LYS ILE LEU THR VAL MET LYS ARG HIS GLU THR SER LEU PRO VAL GLN LEU GLU ALA LEU ARG ALA ILE LEU HIS PHE ILE VAL PRO GLY MET PRO GLU GLU SER ARG GLU ASP THR GLU PHE HIS HIS LYS LEU ASN MET VAL LYS LYS GLN CYS PHE LYS ASN
ASP ILE HIS LYS LEU VAL LEU ALA ALA LEU ASN ARG PHE ILE GLY ASN PRO GLY ILE GLN LYS CYS GLY LEU LYS VAL ILE SER SER ILE VAL HIS PHE PRO ASP ALA LEU GLU MET LEU SER LEU GLU GLY ALA MET ASP SER VAL LEU HIS THR LEU GLN MET TYR PRO ASP ASP GLN
GLU ILE GLN CYS LEU GLY LEU SER LEU ILE GLY TYR LEU ILE THR LYS LYS ASN VAL PHE ILE GLY THR GLY HIS LEU LEU ALA LYS ILE LEU VAL SER SER LEU TYR ARG PHE LYS ASP VAL ALA GLU ILE GLN THR LYS GLY PHE GLN THR ILE LEU ALA ILE LEU LYS LEU SER ALA
SER PHE SER LYS LEU LEU VAL HIS HIS SER PHE ASP LEU VAL ILE PHE HIS GLN MET SER SER ASN ILE MET GLU GLN LYS ASP GLN GLN PHE LEU ASN LEU CYS CYS LYS CYS PHE ALA LYS VAL ALA MET ASP ASP TYR LEU LYS ASN VAL MET LEU GLU ARG ALA CYS ASP GLN ASN
ASN SER ILE MET VAL GLU CYS LEU LEU LEU LEU GLY ALA ASP ALA ASN GLN ALA LYS GLU GLY SER SER LEU ILE CYS GLN VAL CYS GLU LYS GLU SER SER PRO LYS LEU VAL GLU LEU LEU LEU ASN SER GLY SER ARG GLU GLN ASP VAL ARG LYS ALA LEU THR ILE SER ILE GLY
LYS GLY ASP SER GLN ILE ILE SER LEU LEU LEU ARG ARG LEU ALA LEU ASP VAL ALA ASN ASN SER ILE CYS LEU GLY GLY PHE CYS ILE GLY LYS VAL GLU PRO SER TRP LEU GLY PRO LEU PHE PRO ASP LYS THR SER ASN LEU ARG LYS GLN THR ASN ILE ALA SER THR LEU ALA
ARG MET VAL ILE ARG TYR GLN MET LYS SER ALA VAL GLU GLU GLY THR ALA SER GLY SER ASP GLY ASN PHE SER GLU ASP VAL LEU SER LYS PHE ASP GLU TRP THR PHE ILE PRO ASP SER SER MET ASP SER VAL PHE ALA GLN SER ASP ASP LEU ASP SER GLU GLY SER GLU GLY
SER PHE LEU VAL LYS LYS LYS SER ASN SER ILE SER VAL GLY GLU PHE TYR ARG ASP ALA VAL LEU GLN ARG CYS SER PRO ASN LEU GLN ARG HIS SER ASN SER LEU GLY PRO ILE PHE ASP HIS GLU ASP LEU LEU LYS ARG LYS ARG LYS ILE LEU SER SER ASP ASP SER LEU ARG
SER SER LYS LEU GLN SER HIS MET ARG HIS SER ASP SER ILE SER SER LEU ALA SER GLU ARG GLU TYR ILE THR SER LEU ASP LEU SER ALA ASN GLU LEU ARG ASP ILE ASP ALA LEU SER GLN LYS CYS CYS ILE SER VAL HIS LEU GLU HIS LEU GLU LYS LEU GLU LEU HIS GLN
ASN ALA LEU THR SER PHE PRO GLN GLN LEU CYS GLU THR LEU LYS SER LEU THR HIS LEU ASP LEU HIS SER ASN LYS PHE THR SER PHE PRO SER TYR LEU LEU LYS MET SER CYS ILE ALA ASN LEU ASP VAL SER ARG ASN ASP ILE GLY PRO SER VAL VAL LEU ASP PRO THR VAL
LYS CYS PRO THR LEU LYS GLN PHE ASN LEU SER TYR ASN GLN LEU SER PHE VAL PRO GLU ASN LEU THR ASP VAL VAL GLU LYS LEU GLU GLN LEU ILE LEU GLU GLY ASN LYS ILE SER GLY ILE CYS SER PRO LEU ARG LEU LYS GLU LEU LYS ILE LEU ASN LEU SER LYS ASN HIS
ILE SER SER LEU SER GLU ASN PHE LEU GLU ALA CYS PRO LYS VAL GLU SER PHE SER ALA ARG MET ASN PHE LEU ALA ALA MET PRO PHE LEU PRO PRO SER MET THR ILE LEU LYS LEU SER GLN ASN LYS PHE SER CYS ILE PRO GLU ALA ILE LEU ASN LEU PRO HIS LEU ARG SER
LEU ASP MET SER SER ASN ASP ILE GLN TYR LEU PRO GLY PRO ALA HIS TRP LYS SER LEU ASN LEU ARG GLU LEU LEU PHE SER HIS ASN GLN ILE SER ILE LEU ASP LEU SER GLU LYS ALA TYR LEU TRP SER ARG VAL GLU LYS LEU HIS LEU SER HIS ASN LYS LEU LYS GLU ILE
PRO PRO GLU ILE GLY CYS LEU GLU ASN LEU THR SER LEU ASP VAL SER TYR ASN LEU GLU LEU ARG SER PHE PRO ASN GLU MET GLY LYS LEU SER LYS ILE TRP ASP LEU PRO LEU ASP GLU LEU HIS LEU ASN PHE ASP PHE LYS HIS ILE GLY CYS LYS ALA LYS ASP ILE ILE ARG
PHE LEU GLN GLN ARG LEU LYS LYS ALA VAL PRO Y1332 L1421 A1426 D1429 Q1461 R1462 K1463 A1464 C1465 M1466 N1475 G1478 F1479 P1480 L1509 R1514 ASP GLN LEU VAL VAL GLY GLN LEU ILE P1524 D1565 E1566 N1567 G1580 D1587 F1656 Q1657 I1658 A1659 V1669
PRO SER SER LEU SER ASP HIS ARG PRO VAL ILE GLU LEU PRO HIS CYS GLU ASN SER GLU I1690 P1701 M1702 G1703 A1726 L1727 R1728 P1729 N1730 R1731 M1732 Y1733 W1734 W1791 F1792 P1793 G1794 L1795 L1796 E1797 I1798 D1799 F1816 N1817 D1818 G1819 E1820 E1821 H1822 Q1823 K1824 I1825 L1826 L1830 M1831
G1837 ASP LEU LEU VAL ASN PRO ASP GLN PRO ARG LEU THR ILE PRO ILE SER GLN ILE ALA PRO ASP LEU ILE LEU ALA ASP LEU PRO ARG ASN ILE MET LEU ASN ASN ASP GLU LEU GLU PHE GLU GLN ALA PRO GLU F1883 V2048 K2078 F2079 P2080 N2081 A2135 GLU LEU VAL



• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

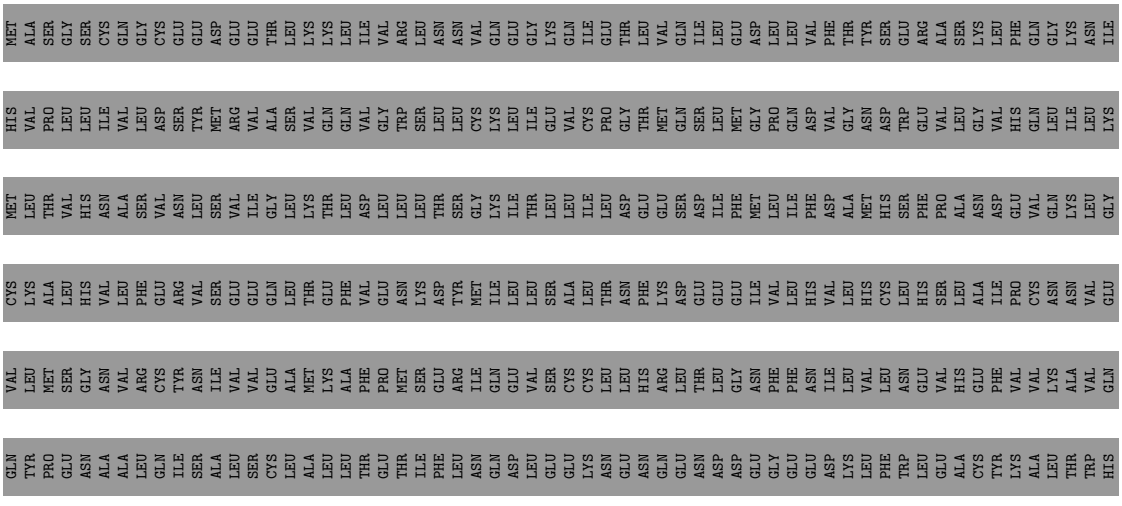
Chain 8-A: 40% 59%





• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

Chain 8-B:



ARG LYS ASN LYS HIS VAL GLN GLU ALA ALA CYS TRP ALA LEU ASN ASN LEU LEU MET TYR GLN ASN SER LEU HIS GLU LYS ILE GLY ASP GLU ASP GLY HIS PHE PRO ALA HIS ARG GLU VAL MET LEU SER MET LEU MET HIS SER SER SER LYS GLU VAL PHE GLN ALA SER ALA ASN

ALA LEU SER THR LEU LEU GLU GLN ASN VAL ASN PHE ARG LYS ILE LEU LEU SER LYS GLY ILE HIS LEU ASN VAL LEU GLU LEU MET GLN LYS HIS ILE HIS SER PRO GLU VAL ALA GLU SER GLY CYS LYS MET LEU ASN HIS LEU PHE GLU GLY SER ASN THR SER LEU ASP ILE MET

ALA ALA VAL VAL PRO LYS ILE LEU THR VAL MET LYS ARG HIS GLU THR SER LEU PRO VAL GLN LEU GLU ALA LEU ARG ALA ILE LEU HIS PHE ILE VAL PRO GLY MET PRO GLU GLU SER ARG GLU ASP THR GLU PHE HIS HIS LYS LEU ASN MET VAL LYS LYS GLN CYS PHE LYS ASN

ASP ILE HIS LYS LEU VAL LEU ALA ALA LEU ASN ARG PHE ILE GLY ASN PRO GLY ILE GLN LYS CYS GLY LEU LYS VAL ILE SER SER ILE VAL HIS PHE PRO ASP ALA LEU GLU MET LEU SER LEU GLU GLY ALA MET ASP SER VAL LEU HIS THR LEU GLN MET TYR PRO ASP ASP GLN

GLU ILE GLN CYS LEU GLY LEU SER LEU ILE GLY TYR LEU ILE THR LYS LYS ASN VAL PHE ILE GLY THR GLY HIS LEU LEU ALA LYS ILE LEU VAL SER SER LEU TYR ARG PHE LYS ASP VAL ALA GLU ILE GLN THR LYS GLY PHE GLN THR ILE LEU ALA ILE LEU LYS LEU SER ALA

SER PHE SER LYS LEU LEU VAL HIS HIS SER PHE ASP LEU VAL ILE PHE HIS GLN MET SER SER ASN ILE MET GLU GLN LYS ASP GLN GLN PHE LEU ASN LEU CYS CYS LYS CYS PHE ALA LYS VAL ALA MET ASP ASP TYR LEU LYS ASN VAL MET LEU GLU ARG ALA CYS ASP GLN ASN

ASN SER ILE MET VAL GLU CYS LEU LEU LEU LEU GLY ALA ASP ALA ASN GLN ALA LYS GLU GLY SER SER LEU ILE CYS GLN VAL CYS GLU LYS GLU SER SER PRO LYS LEU VAL GLU LEU LEU LEU ASN SER GLY SER ARG GLU GLN ASP VAL ARG LYS ALA LEU THR ILE SER ILE GLY

LYS GLY ASP SER GLN ILE ILE SER LEU LEU LEU ARG ARG LEU ALA LEU ASP VAL ALA ASN ASN SER ILE CYS LEU GLY GLY PHE CYS ILE GLY LYS VAL GLU PRO SER TRP LEU GLY PRO LEU PHE PRO ASP LYS THR SER ASN LEU ARG LYS GLN THR ASN ILE ALA SER THR LEU ALA

ARG MET VAL ILE ARG TYR GLN MET LYS SER ALA VAL GLU GLU GLY THR ALA SER GLY SER ASP GLY ASN PHE SER GLU ASP VAL LEU SER LYS PHE ASP GLU TRP THR PHE ILE PRO ASP SER SER MET ASP SER VAL PHE ALA GLN SER ASP ASP LEU ASP SER GLU GLY SER GLU GLY

SER PHE LEU VAL LYS LYS LYS SER ASN SER ILE SER VAL GLY GLU PHE TYR ARG ASP ALA VAL LEU GLN ARG CYS SER PRO ASN LEU GLN ARG HIS SER ASN SER LEU GLY PRO ILE PHE ASP HIS GLU ASP LEU LEU LYS ARG LYS ARG LYS ILE LEU SER SER ASP ASP SER LEU ARG

SER SER LYS LEU GLN SER HIS MET ARG HIS SER ASP SER ILE SER SER LEU ALA SER GLU ARG GLU TYR ILE THR SER LEU ASP LEU SER ALA ASN GLU LEU ARG ASP ILE ASP ALA LEU SER GLN LYS CYS CYS ILE SER VAL HIS LEU GLU HIS LEU GLU LYS LEU GLU LEU HIS GLN

ASN ALA LEU THR SER PHE PRO GLN GLN LEU CYS GLU THR LEU LYS SER LEU THR HIS LEU ASP LEU HIS SER ASN LYS PHE THR SER PHE PRO SER TYR LEU LEU LYS MET SER CYS ILE ALA ASN LEU ASP VAL SER ARG ASN ASP ILE GLY PRO SER VAL VAL LEU ASP PRO THR VAL

LYS CYS PRO THR LEU LYS GLN PHE ASN LEU SER TYR ASN GLN LEU SER PHE VAL PRO GLU ASN LEU THR ASP VAL VAL GLU LYS LEU GLU GLN LEU ILE LEU GLU GLY ASN LYS ILE SER GLY ILE CYS SER PRO LEU ARG LEU LYS GLU LEU LYS ILE LEU ASN LEU SER LYS ASN HIS

ILE SER SER LEU SER GLU ASN PHE LEU GLU ALA CYS PRO LYS VAL GLU SER PHE SER ALA ARG MET ASN PHE LEU ALA ALA MET PRO PHE LEU PRO PRO SER MET THR ILE LEU LYS LEU SER GLN ASN LYS PHE SER CYS ILE PRO GLU ALA ILE LEU ASN LEU PRO HIS LEU ARG SER

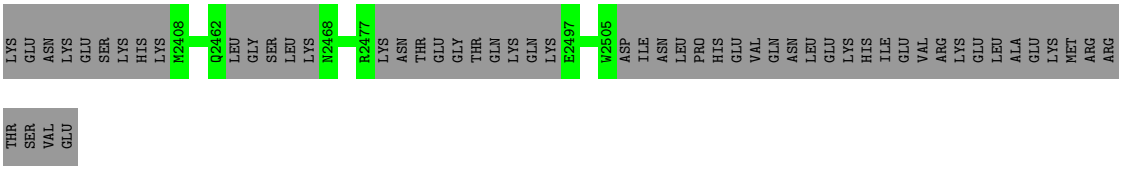
LEU ASP MET SER SER ASN ASP ILE GLN TYR LEU PRO GLY PRO ALA HIS TRP LYS SER LEU ASN LEU ARG GLU LEU LEU PHE SER HIS ASN GLN ILE SER ILE LEU ASP LEU SER GLU LYS ALA TYR LEU TRP SER ARG VAL GLU LYS LEU HIS LEU SER HIS ASN LYS LEU LYS GLU ILE

PRO PRO GLU ILE GLY CYS LEU GLU ASN LEU THR SER LEU ASP VAL SER TYR ASN LEU GLU LEU ARG SER PHE PRO ASN GLU MET GLY LYS LEU SER LYS ILE TRP ASP LEU PRO LEU ASP GLU LEU HIS LEU ASN PHE ASP PHE LYS HIS ILE GLY CYS LYS ALA LYS ASP ILE ILE ARG

PHE LEU GLN GLN ARG LEU LYS LYS ALA VAL PRO Y1332 Q1425 A1426 E1427 C1465 R1514 ASP GLN LEU VAL VAL GLY GLN LEU ILE P1524 N1567 E1568 L1569 D1587 V1669 PRO SER SER LEU SER ASP HIS ARG PRO VAL ILE GLU LEU PRO HIS CYS GLU ASN SER GLU I1690

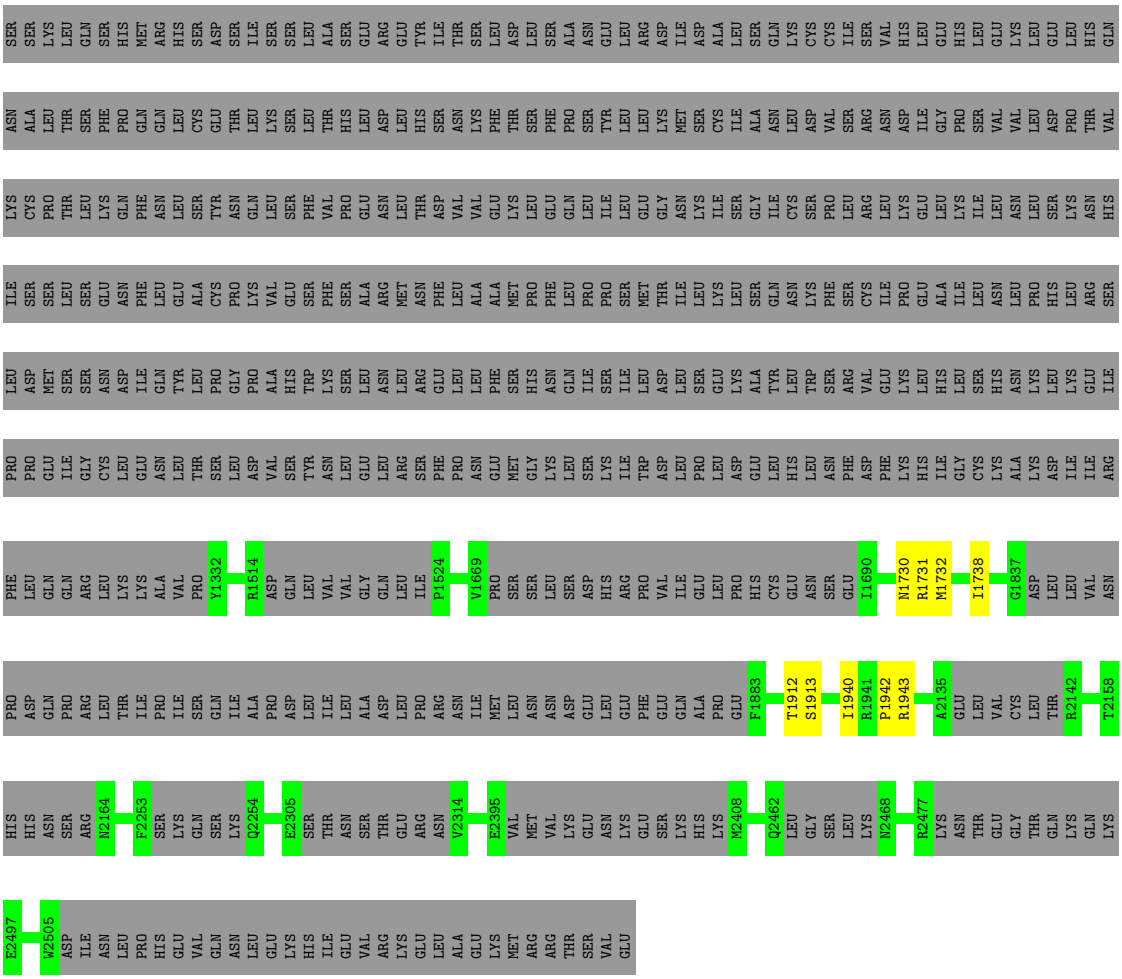
R1725 A1726 N1730 R1731 M1732 R1735 N1757 E1797 I1798 G1837 ASP LEU LEU VAL ASN PRO ASP GLN PRO ARG LEU THR ILE PRO ILE SER GLN ILE ALA PRO ASP LEU ILE LEU ALA ASP LEU PRO ARG ASN ILE MET LEU ASN ASN ASP GLU LEU GLU PHE GLU GLN ALA PRO GLU

F1883 T1912 S1913 Q1919 V1922 V1923 Y2023 C2024 V2048 G2076 L2077 K2078 F2079 A2135 GLU LEU VAL CYS LEU THR R2142 T2158 HIS HIS ASN SER ARG N2164 F2253 SER LYS GLN SER LYS Q2254 E2305 SER THR ASN SER THR GLU ARG ASN V2314 E2395 VAL MET VAL



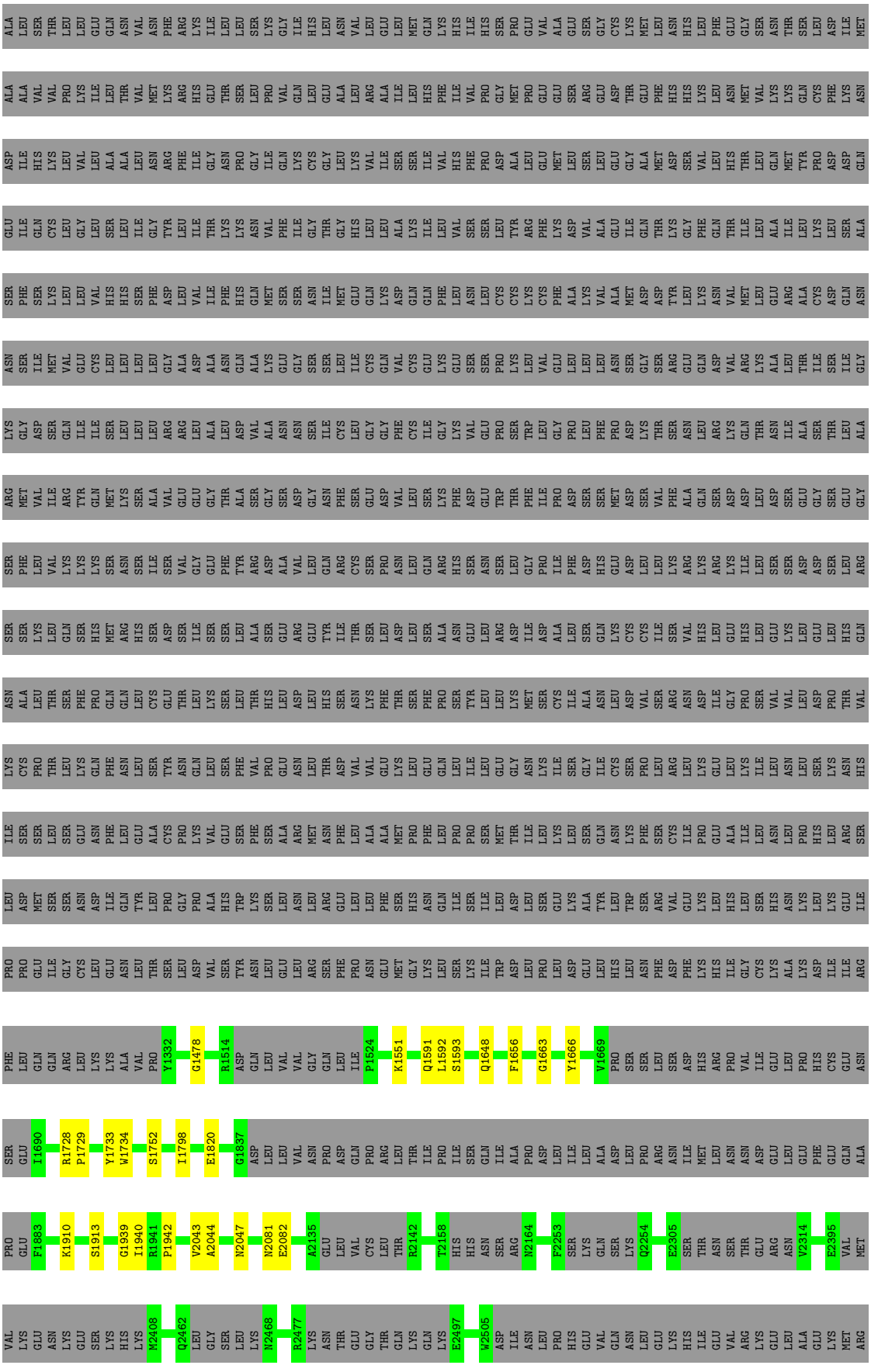
• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

Chain 9-A:



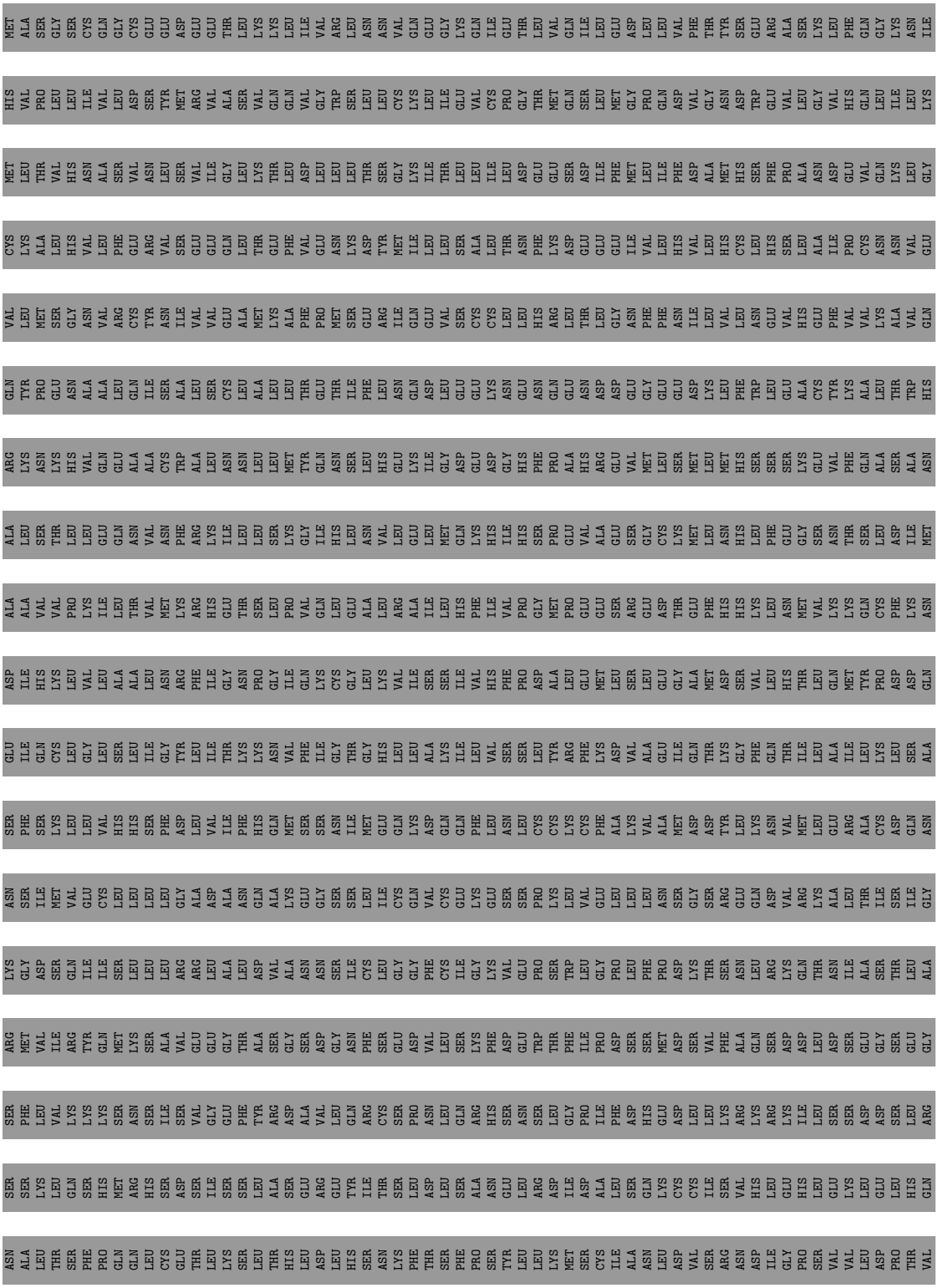
• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

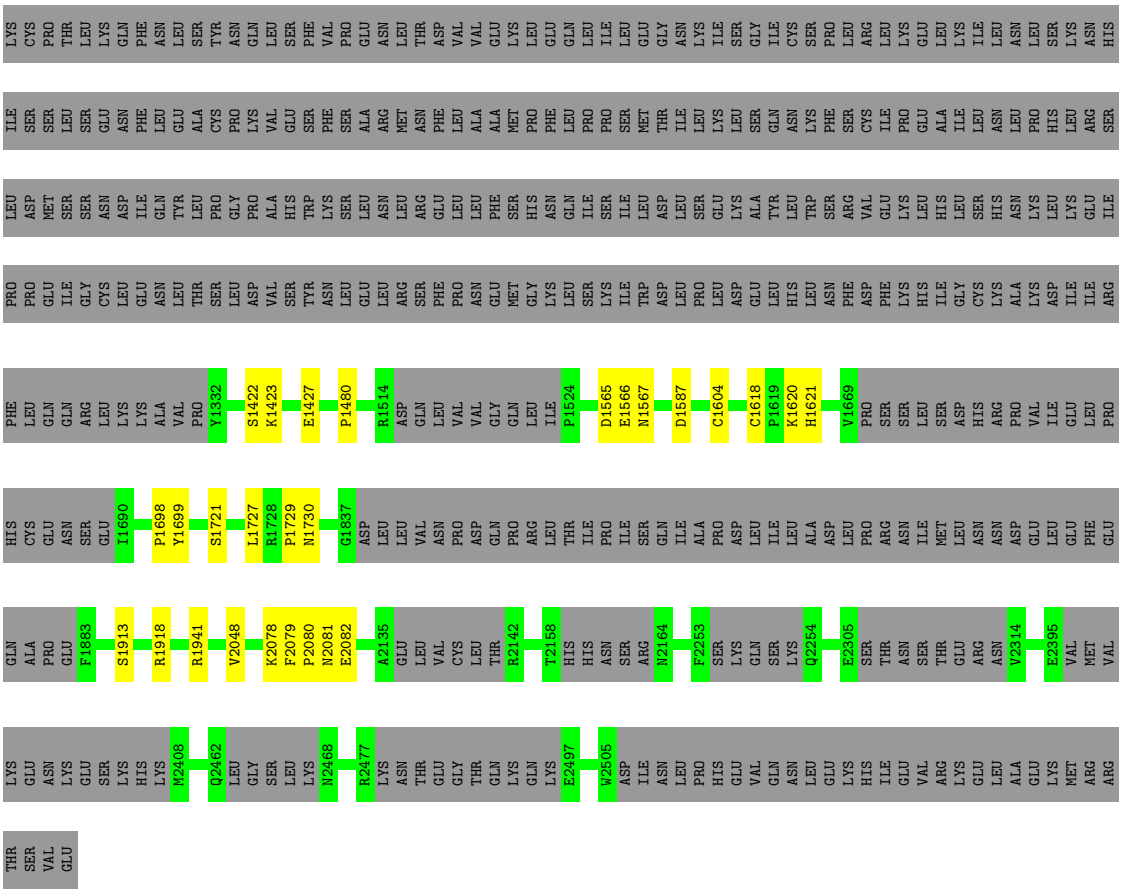
Chain 9-B:


ALA LEU SER THR LEU LEU GLU GLN ASN VAL ASN PHE ARG LYS ILE LEU LEU SER LYS GLY ILE HIS GLU LEU ASN VAL LEU GLU LEU MET GLN LYS HIS ILE HIS SER PRO GLU VAL ALA GLU SER GLY CYS LYS MET LEU ASN HIS HIS LEU PHE GLU GLY SER ASN THR SER LEU ASP ILE MET
ALA ALA VAL VAL PRO LYS ILE LEU THR VAL MET LYS ARG HIS GLU THR SER LEU PRO VAL GLN LEU GLU ALA LEU ARG ALA ILE LEU HIS PHE ILE VAL PRO GLY MET PRO GLU GLU SER ARG GLU ASP THR GLU PHE HIS HIS LYS LEU ASN MET VAL LYS LYS GLN CYS PHE LYS ASN
ASP ILE HIS LYS LEU VAL LEU ALA ALA LEU ASN ARG PHE ILE GLY ASN PRO GLY ILE GLN CYS GLY LEU LYS VAL ILE SER SER ILE VAL HIS PHE PRO ASP ALA LEU GLU GLY ALA MET LEU SER LEU GLU SER LEU VAL LEU HIS HIS SER LEU LEU VAL HIS PHE ASP ALA MET ASP SER VAL LEU HIS THR LEU GLN LYS GLN MET TYR PRO ASP SER GLN
GLU ILE GLN CYS LEU GLY LEU SER LEU LEU ILE GLY TYR LEU ILE THR LYS LYS ASN VAL PHE ILE GLY THR GLY HIS LEU LEU VAL SER SER LEU GLN LEU ALA ALA LYS ILE LEU VAL LEU LEU ALA ILE LEU LYS LEU GLU ALA SER LEU LEU ALA
SER PHE SER LYS LEU VAL HIS HIS SER PHE ASP LEU VAL HIS PHE HIS GLN MET SER SER ASN ILE MET GLU GLN LYS ASP GLN GLN PHE LEU ASN VAL MET LEU GLU GLN LYS ASN VAL LEU HIS THR ASP ASP TYR LEU LYS ASN VAL ASP SER GLN
ASN SER ILE MET VAL GLU CYS LEU LEU LEU LEU GLY ALA ASP ALA ASN GLN ALA LYS GLU GLN LYS VAL CYS GLN VAL GLU SER SER SER ASN ILE CYS LEU GLY GLN GLN LYS GLU SER PRO LYS LEU VAL GLU LEU LEU LEU ASN SER GLY ASP ASP TYR ARG GLU GLN ARG LYS ALA LEU THR ALA SER LEU GLY
LYS GLY ASP SER GLN ILE ILE SER LEU LEU LEU ARG ARG LEU ALA LEU ASP VAL ALA ASN ASN SER ILE CYS LEU GLY GLY PHE CYS ILE GLY LYS VAL GLU PRO PRO SER TRP LEU GLY PRO LEU PHE PRO ASP LYS THR SER ASN LEU ARG LYS GLN THR ASN ILE ALA SER THR LEU ALA
ARG MET VAL ILE ARG TYR GLN MET LYS SER ALA VAL GLU GLU GLY THR ALA SER GLY SER ASP GLY ASN PHE SER GLU ASP VAL LEU SER LYS PHE ASP GLU TRP THR PHE ILE PRO ASP SER SER MET ASP SER VAL PHE ALA GLN SER ARG GLU GLN ASP VAL ARG LYS GLN THR ASP ASP SER GLU GLY SER GLU GLY
SER PHE LEU VAL LYS LYS SER ASN SER ILE SER VAL GLY GLU PHE TYR ARG ASP ALA VAL LEU GLN ARG CYS SER PRO ASN LEU GLN ARG HIS SER ASN SER LEU GLY PRO ILE PHE ASP HIS GLU ASP LEU LEU LYS ARG LYS ARG HIS LYS ILE LEU LEU SER ASP ASP SER LEU ARG
SER SER LYS LEU GLN SER HIS MET ARG HIS SER ASP SER ILE SER SER LEU ALA SER GLU ASP TYR ILE THR SER LEU ASP LEU SER ASN GLN LYS CYS CYS ILE SER VAL HIS LEU GLU GLU LYS LEU GLU GLU LEU VAL LEU ASP SER GLN
ASN ALA LEU THR SER PHE PRO GLN GLN LEU CYS GLU THR LEU PHE VAL PRO GLU ASN GLN LEU SER PHE VAL PRO GLU ASN LEU THR ASP VAL VAL GLU LYS LEU PHE THR SER PHE PRO GLN GLU LEU ASP LEU HIS SER ASN VAL LYS PHE THR SER PRO GLU LEU SER ARG ASN ASP ILE GLY PRO SER LEU VAL LEU LEU ASP VAL
LYS CYS PRO THR LEU LYS LEU GLN PHE ASN LEU SER TYR ASN GLN LEU SER PHE VAL PRO GLU ASN LEU THR ASP VAL VAL GLU LYS LEU GLU GLN LEU LEU ILE LEU GLU LEU GLY ILE CYS SER PRO LEU ARG LEU LYS LEU LEU ASN LEU LYS GLU LEU LEU LYS ILE LEU ASN HIS
ILE SER SER LEU SER GLU ALA CYS PRO LYS VAL GLU SER PHE SER ALA ARG MET ASN PHE LEU ALA ALA MET PRO PHE LEU PRO LEU ILE LEU LYS LEU SER GLN ASN LYS PHE SER CYS ILE LEU ASP ARG SER
LEU ASP MET SER SER ASN ASP ILE GLN LEU ARG GLU LEU LEU ASN PHE SER HIS ASN GLN LEU ILE GLN ILE SER LEU ILE LEU ASP LEU SER GLU LYS ALA TYR LEU TRP SER ARG VAL GLU LYS LEU ASN LEU ILE LEU GLU LEU ASN HIS SER VAL GLU LEU ILE
PRO PRO GLU ILE GLY CYS LEU GLU ASN LEU THR SER LEU ASP VAL ARG SER PHE PRO ASN GLU MET GLY LYS LEU SER LYS ILE TRP ASP LEU PRO LEU ASP GLU LEU HIS LEU ASN SER PHE ASP LYS HIS ILE GLY CYS LYS ALA LYS ASP ILE GLU ARG
PHE LEU GLN GLN ARG LEU SER TYR LYS ALA VAL PRO GLU ASP LEU VAL VAL GLY GLN LEU ILE P1524 K1551 Q1591 L1592 S1593 Q1648 F1656 G1663 Y1666 V1669 PRO SER SER LEU SER ASP HIS ARG PRO VAL ILE GLU LEU PRO HIS CYS GLU ASN
SER GLU I1690 R1728 P1729 Y1733 W1734 S1752 I1798 E1820 G1837 ASP LEU LEU VAL ASN PRO ASP GLN PRO ARG LEU THR ILE PRO ILE SER GLN ILE ALA PRO ASP LEU ILE LEU ALA ASP LEU PRO LEU ARG ASN ILE MET LEU ASN ASN ASP GLU LEU GLU PHE GLU GLN ALA
PRO GLU F1883 K1910 S1913 G1939 I1940 R1941 P1942 V2043 A2044 N2047 N2081 E2082 A2135 GLU LEU VAL CYS LEU THR R2142 T2158 HIS HIS ASN SER ARG N2164 F2253 SER LYS GLN SER LYS Q2254 E2305 SER THR ASN SER THR GLU ARG ASN LEU VAL GLU LYS HIS ILE GLU VAL ARG LYS GLU LEU ALA GLU PRO LEU PRO HIS GLU VAL MET E2395 VAL MET
VAL LYS GLU ASN LYS GLU SER LYS HIS LYS M2408 Q2462 LEU GLY SER LEU LYS N2468 R2477 LYS ASN THR GLU GLY THR GLN LYS GLN LYS E2497 W2505 ASP ILE ASN LEU PRO HIS GLU VAL GLN ASN LEU GLU LYS HIS ILE GLU VAL ARG LYS GLU LEU ALA GLU LYS MET ARG

• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

Chain 10-A: 40% 59%





• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

Chain 10-B:

ALA ALA VAL VAL PRO LYS ILE LEU THR VAL MET LYS ARG HIS GLU THR SER LEU PRO VAL GLN LEU GLU ALA LEU ARG ALA ILE LEU HIS PHE ILE VAL PRO GLY MET PRO GLU GLU SER ARG GLU ASP THR GLU PHE HIS HIS LYS LEU ASN MET VAL LYS LYS GLN CYS PHE LYS ASN

ASP ILE HIS LYS LEU VAL LEU ALA ALA LEU ASN ARG PHE ILE GLY ASN PRO GLY ILE GLN LYS CYS GLY LEU LYS VAL ILE SER SER ILE VAL HIS PHE PRO ASP ALA LEU GLU MET LEU SER LEU GLU GLY ALA MET ASP SER VAL LEU HIS THR LEU GLN MET TYR PRO ASP ASP GLN

GLU ILE GLN CYS LEU GLY LEU SER LEU ILE GLY TYR LEU ILE THR LYS LYS ASN VAL PHE ILE GLY THR GLY HIS LEU LEU ALA LYS ILE LEU VAL SER SER LEU TYR ARG PHE LYS ASP VAL ALA GLU ILE GLN THR LYS GLY PHE GLN THR ILE LEU ALA ILE LEU LYS LEU SER ALA

SER PHE SER LYS LEU LEU VAL HIS HIS SER PHE ASP LEU VAL ILE PHE HIS GLN MET SER SER ASN ILE MET GLU GLN LYS ASP GLN GLN PHE LEU ASN LEU CYS CYS LYS CYS PHE ALA LYS VAL ALA MET ASP ASP TYR LEU LYS ASN VAL MET LEU GLU ARG ALA CYS ASP GLN ASN

ASN SER ILE MET VAL GLU CYS LEU LEU LEU LEU GLY ALA ASP ALA ASN GLN ALA LYS GLU GLY SER SER LEU ILE CYS GLN VAL CYS GLU LYS GLU SER SER PRO LYS LEU VAL GLU LEU LEU LEU ASN SER GLY SER ARG GLU GLN ASP VAL ARG LYS ALA LEU THR ILE SER ILE GLY

LYS GLY ASP SER GLN ILE ILE SER LEU LEU LEU ARG ARG LEU ALA LEU ASP VAL ALA ASN ASN SER ILE CYS LEU GLY GLY PHE CYS ILE GLY LYS VAL GLU PRO SER TRP LEU GLY PRO LEU PHE PRO ASP LYS THR SER ASN LEU ARG LYS GLN THR ASN ILE ALA SER THR LEU ALA

ARG MET VAL ILE ARG TYR GLN MET LYS SER ALA VAL GLU GLU GLY THR ALA SER GLY SER ASP GLY ASN PHE SER GLU ASP VAL LEU SER LYS PHE ASP GLU TRP THR PHE ILE PRO ASP SER SER MET ASP SER VAL PHE ALA GLN SER ASP ASP LEU ASP SER GLU GLY SER GLU GLY

SER PHE LEU VAL LYS LYS LYS SER ASN SER ILE SER VAL GLY GLU PHE TYR ARG ASP ALA VAL LEU GLN ARG CYS SER PRO ASN LEU GLN ARG HIS SER ASN SER LEU GLY PRO ILE PHE ASP HIS GLU ASP LEU LEU LYS ARG LYS ARG LYS ILE LEU SER SER ASP ASP SER LEU ARG

SER SER LYS LEU GLN SER HIS MET ARG HIS SER ASP SER ILE SER SER LEU ALA SER GLU ARG GLU TYR ILE THR SER LEU ASP LEU SER ALA ASN GLU LEU ARG ASP ILE ASP ALA LEU SER GLN LYS CYS CYS ILE SER VAL HIS LEU GLU HIS LEU GLU LYS LEU GLU LEU HIS GLN

ASN ALA LEU THR SER PHE PRO GLN GLN LEU CYS GLU THR LEU LYS SER LEU THR HIS LEU ASP LEU HIS SER ASN LYS PHE THR SER PHE PRO SER TYR LEU LEU LYS MET SER CYS ILE ALA ASN LEU ASP VAL SER ARG ASN ASP ILE GLY PRO SER VAL VAL LEU ASP PRO THR VAL

LYS CYS PRO THR LEU LYS GLN PHE ASN LEU SER TYR ASN GLN LEU SER PHE VAL PRO GLU ASN LEU THR ASP VAL VAL GLU LYS LEU GLU GLN LEU ILE LEU GLU GLY ASN LYS ILE SER GLY ILE CYS SER PRO LEU ARG LEU LYS GLU LEU LYS ILE LEU ASN LEU SER LYS ASN HIS

ILE SER SER LEU SER GLU ASN PHE LEU GLU ALA CYS PRO LYS VAL GLU SER PHE SER ALA ARG MET ASN PHE LEU ALA ALA MET PRO PHE LEU PRO PRO SER MET THR ILE LEU LYS LEU SER GLN ASN LYS PHE SER CYS ILE PRO GLU ALA ILE LEU ASN LEU PRO HIS LEU ARG SER

LEU ASP MET SER SER ASN ASP ILE GLN TYR LEU PRO GLY PRO ALA HIS TRP LYS SER LEU ASN LEU ARG GLU LEU LEU PHE SER HIS ASN GLN ILE SER ILE LEU ASP LEU SER GLU LYS ALA TYR LEU TRP SER ARG VAL GLU LYS LEU HIS LEU SER HIS ASN LYS LEU LYS GLU ILE

PRO PRO GLU ILE GLY CYS LEU GLU ASN LEU THR SER LEU ASP VAL SER TYR ASN LEU GLU LEU ARG SER PHE PRO ASN GLU MET GLY LYS LEU SER LYS ILE TRP ASP LEU PRO LEU ASP GLU LEU HIS LEU ASN PHE ASP PHE LYS HIS ILE GLY CYS LYS ALA LYS ASP ILE ILE ARG

PHE LEU GLN GLN ARG LEU LYS LYS ALA VAL PRO Y1332 S1422 K1423 E1427 P1480 R1514 ASP GLN LEU VAL VAL GLY GLN LEU ILE P1524 D1565 E1566 N1567 D1587 C1604 V1669 PRO SER SER LEU SER ASP HIS ARG PRO VAL ILE GLU LEU PRO HIS CYS GLU ASN SER

GLU I1690 P1698 Y1699 S1721 L1727 R1728 P1729 N1730 G1804 L1807 L1808 G1837 ASP LEU LEU VAL ASN PRO ASP GLN PRO ARG LEU THR ILE PRO ILE SER GLN ILE ALA PRO ASP LEU ILE LEU ALA ASP LEU PRO ARG ASN ILE MET LEU ASN ASN ASP GLU LEU GLU PHE GLU

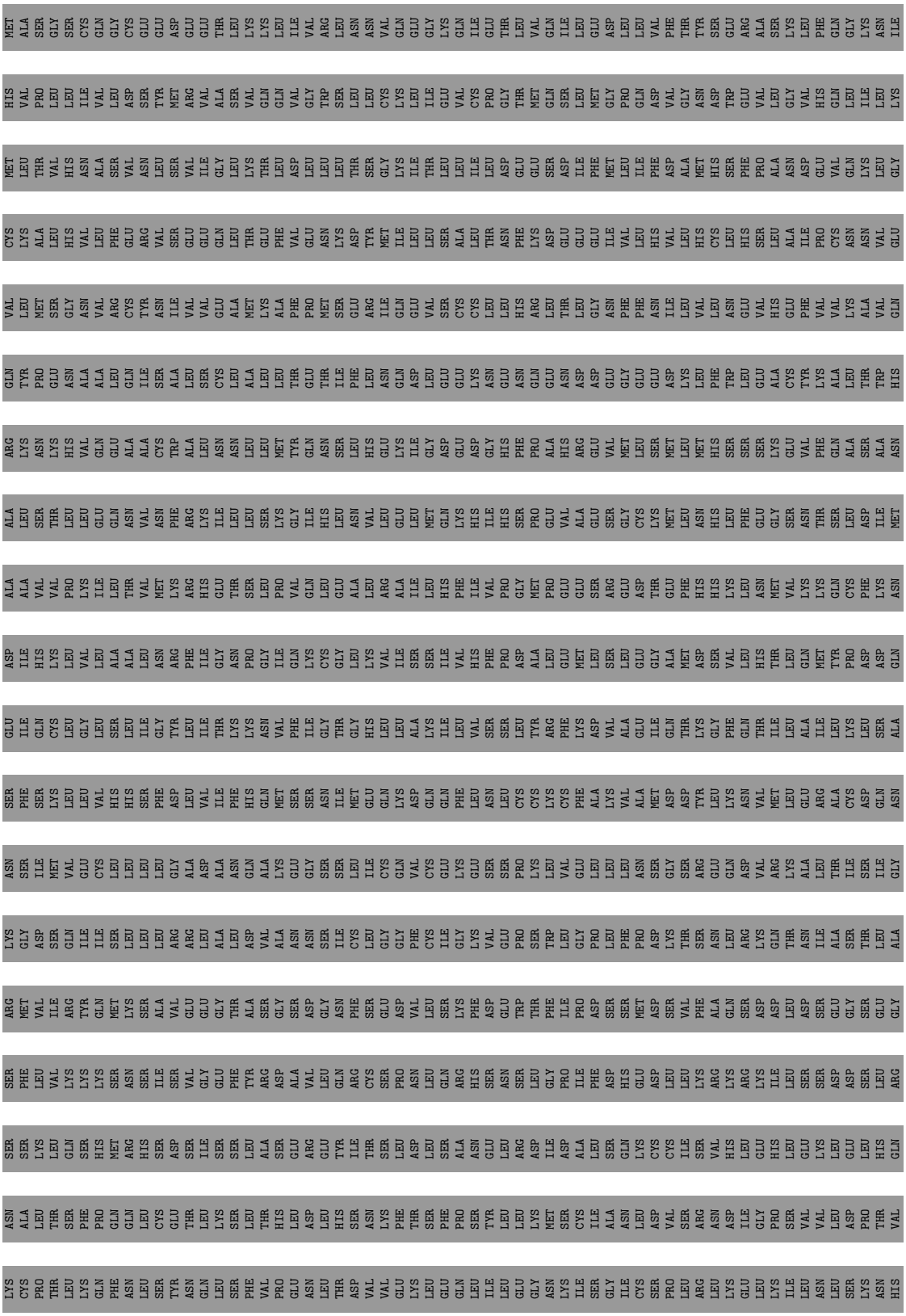
GLN ALA PRO GLU F1883 S1913 R1918 R1941 V2048 K2078 F2079 P2080 N2081 E2082 A2135 GLU LEU VAL CYS LEU THR R2142 T2158 HIS HIS ASN SER ARG N2164 F2253 SER LYS GLN SER LYS Q2254 E2305 SER THR ASN SER THR GLU ARG ASN V2314 E2395 VAL MET VAL

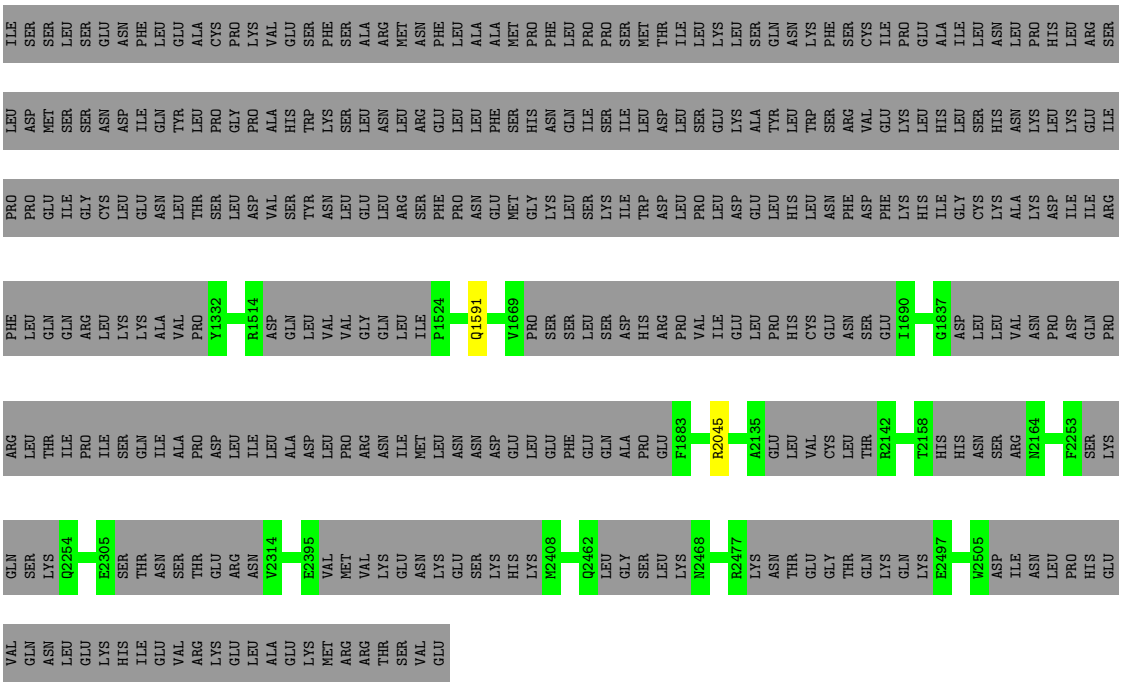
LYS GLU ASN LYS GLU SER LYS HIS LYS M2408 Q2462 LEU GLY SER LEU LYS N2468 R2477 LYS ASN THR GLU GLY THR GLN LYS GLN LYS E2497 W2505 ASP ILE ASN LEU PRO HIS GLU VAL GLN ASN LEU GLU LYS HIS ILE GLU VAL ARG LYS GLU LEU ALA GLU LYS MET ARG ARG

THR SER VAL GLU

• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

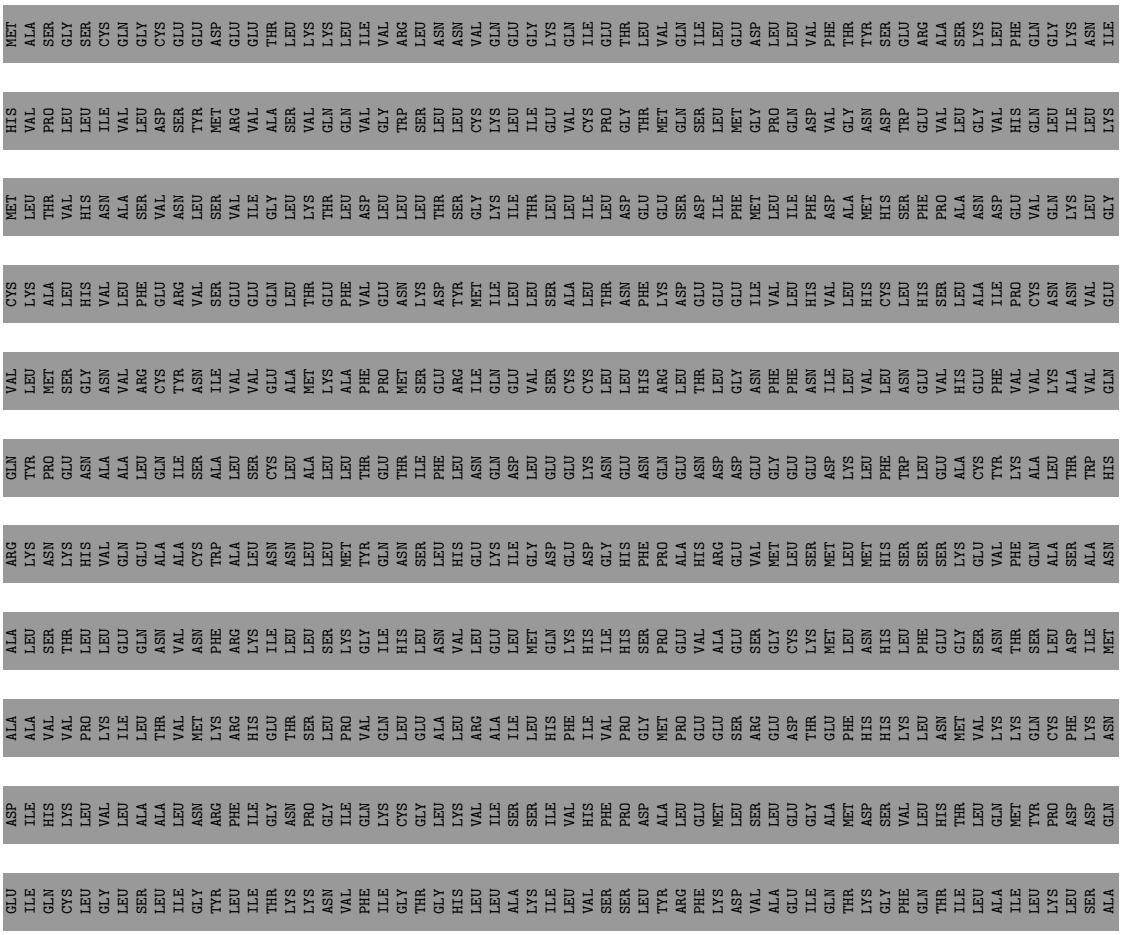
Chain 11-A: 41% 59%

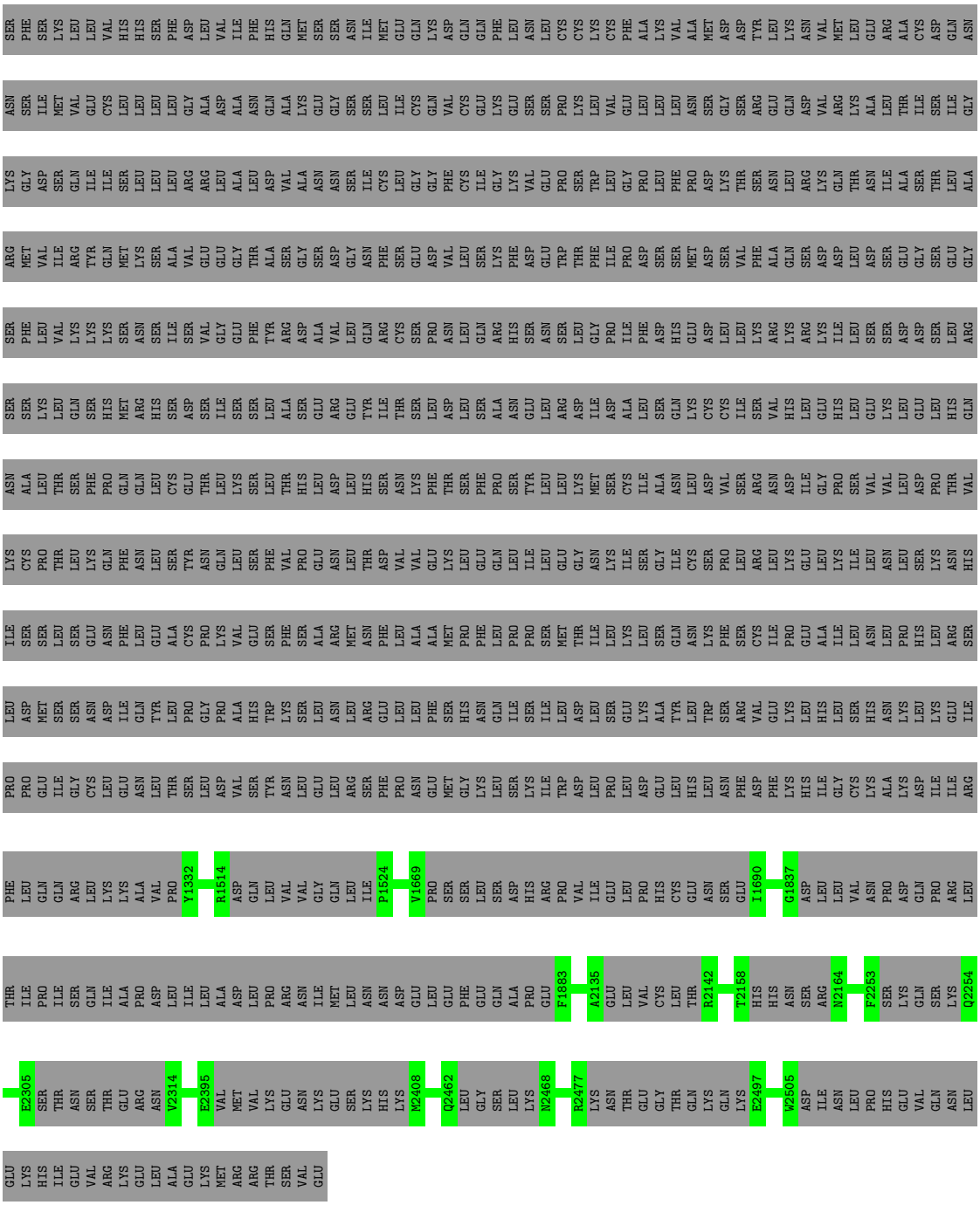




• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

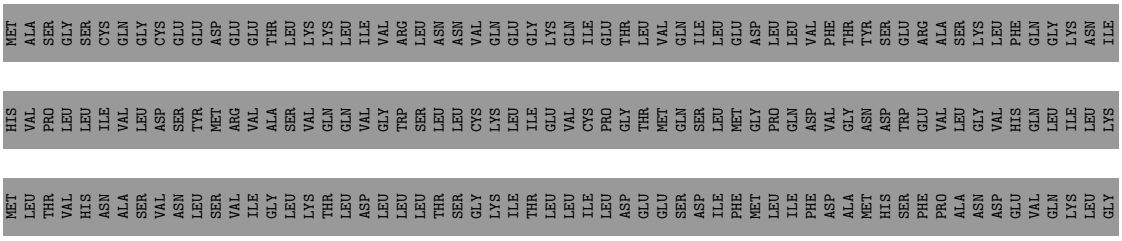
Chain 11-B:

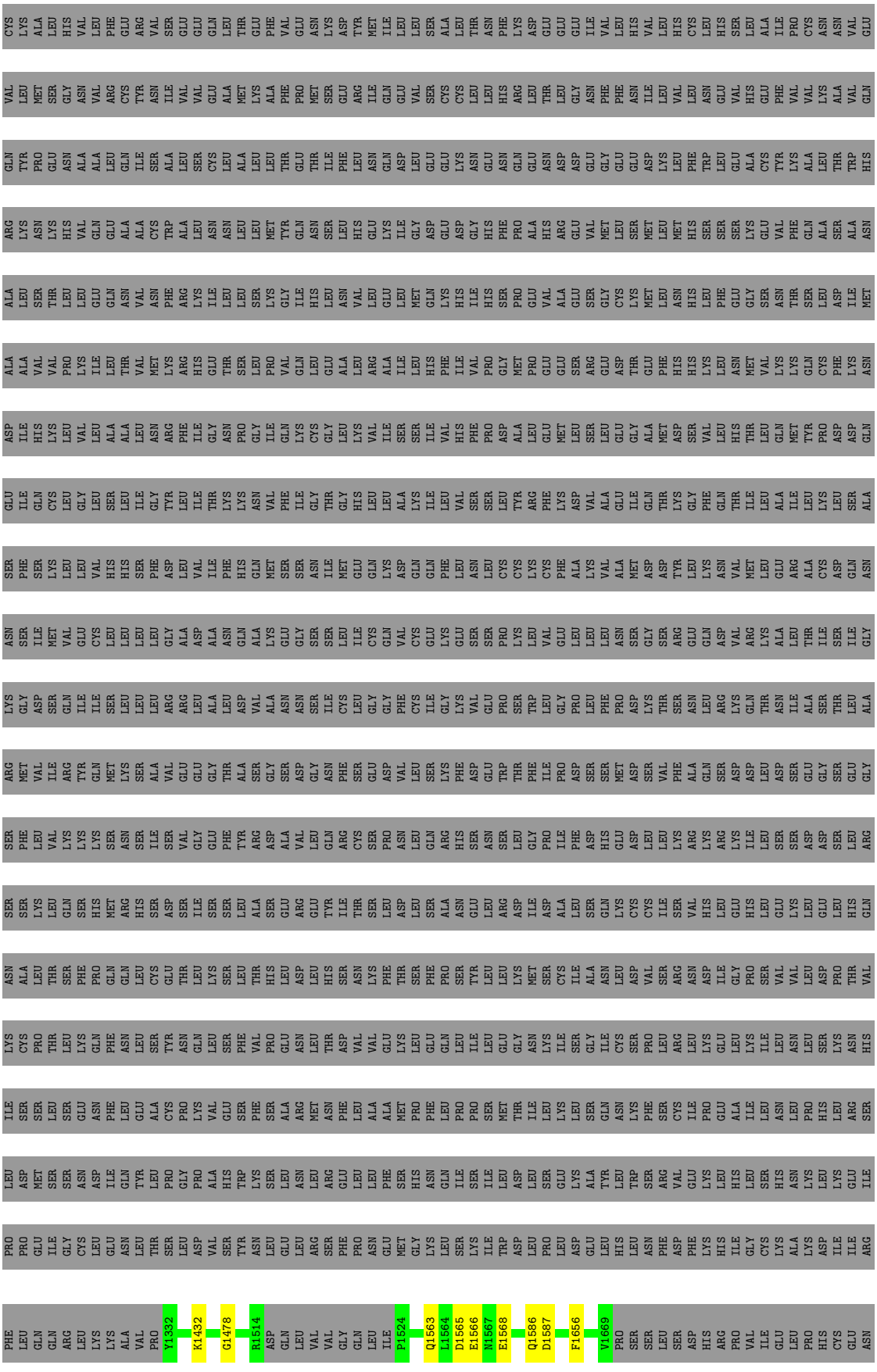




• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

Chain 12-A:

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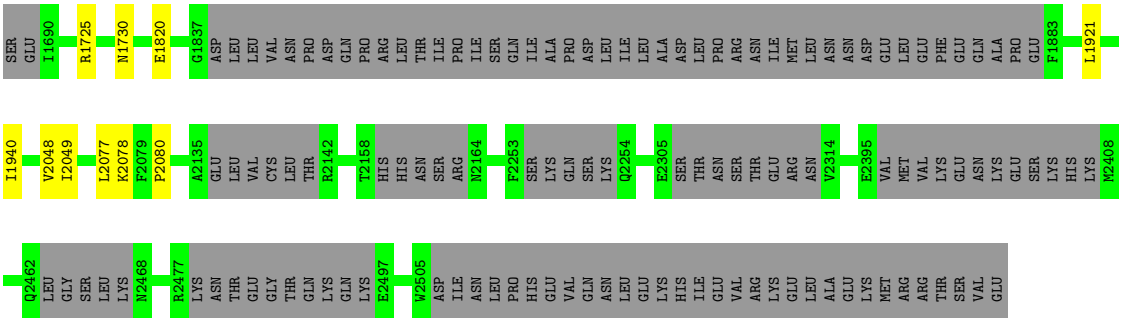
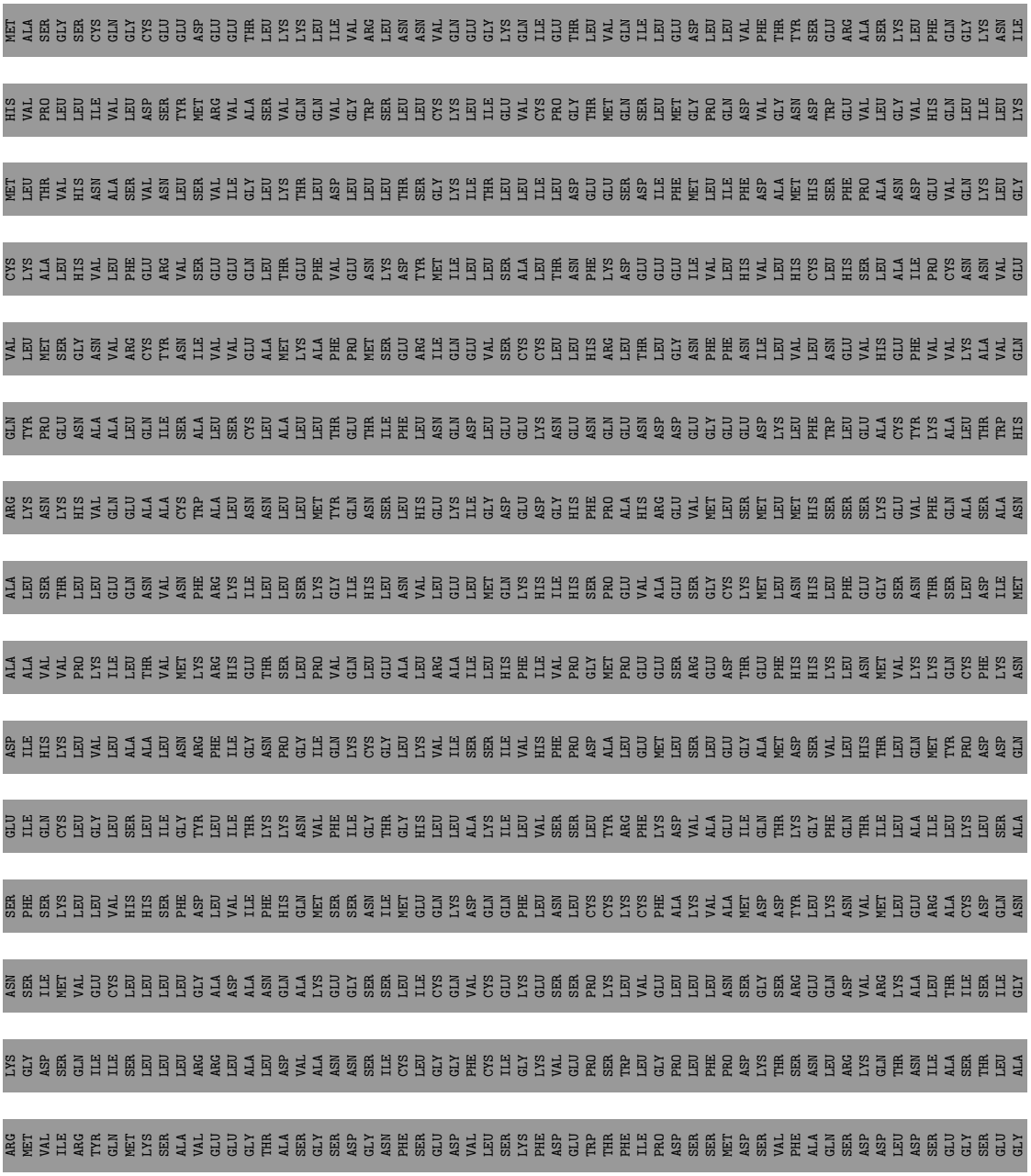
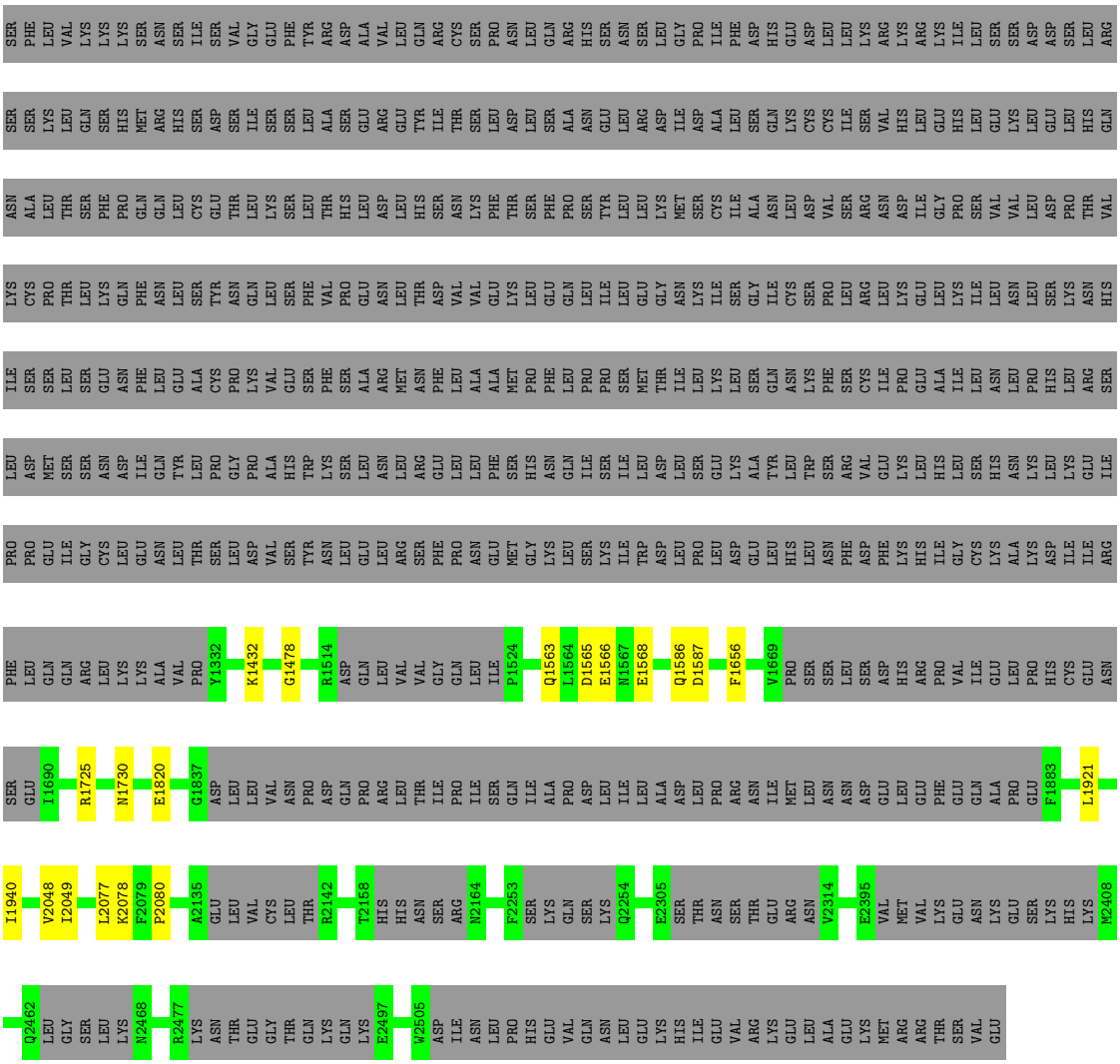
K1432
G1478
R1514
P1524
Q1563
L1564
D1565
E1566
N1567
E1568
Q1586
D1587
F1656
V1659



• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

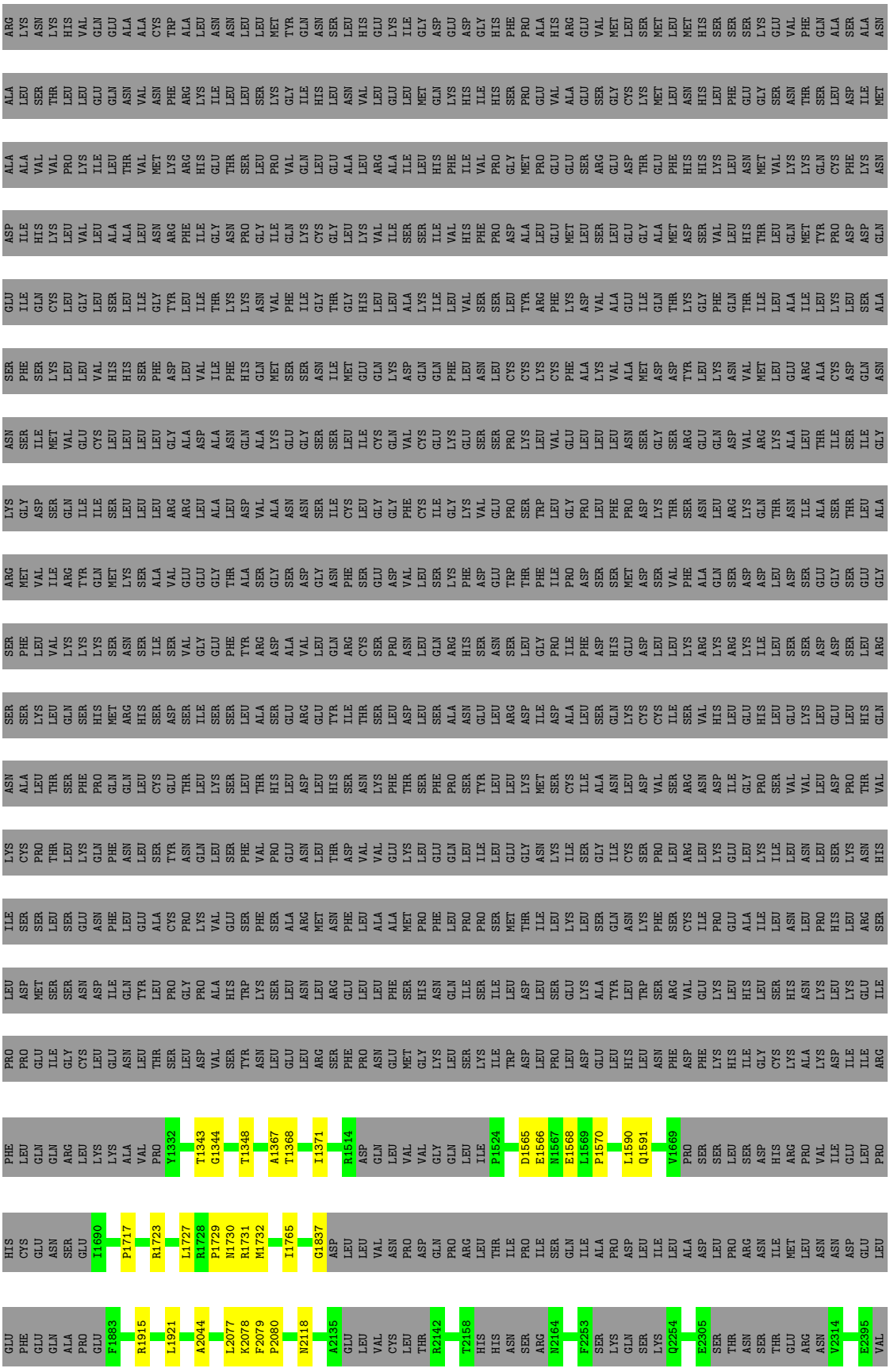
Chain 12-B: 40% 59%





• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

Chain 13-A: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G1344
T1348
A1367
T1368
I1371
R1514
P1524
D1565
E1566
N1567
E1568
L1569
P1570
L1590
Q1591
V1669
I1690
P1717
R1723
L1727
R1728
P1729
N1730
R1731
M1732
I1765
G1837
F1883
R1915
L1921
A2044
L2077
K2078
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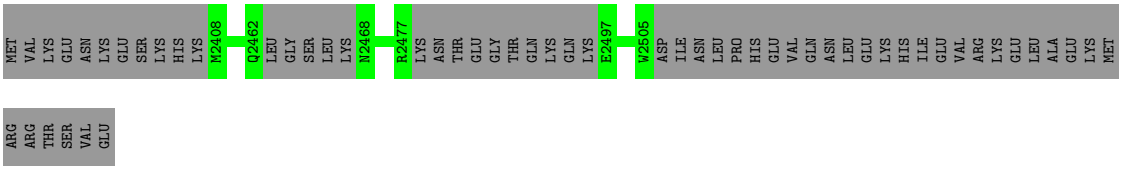
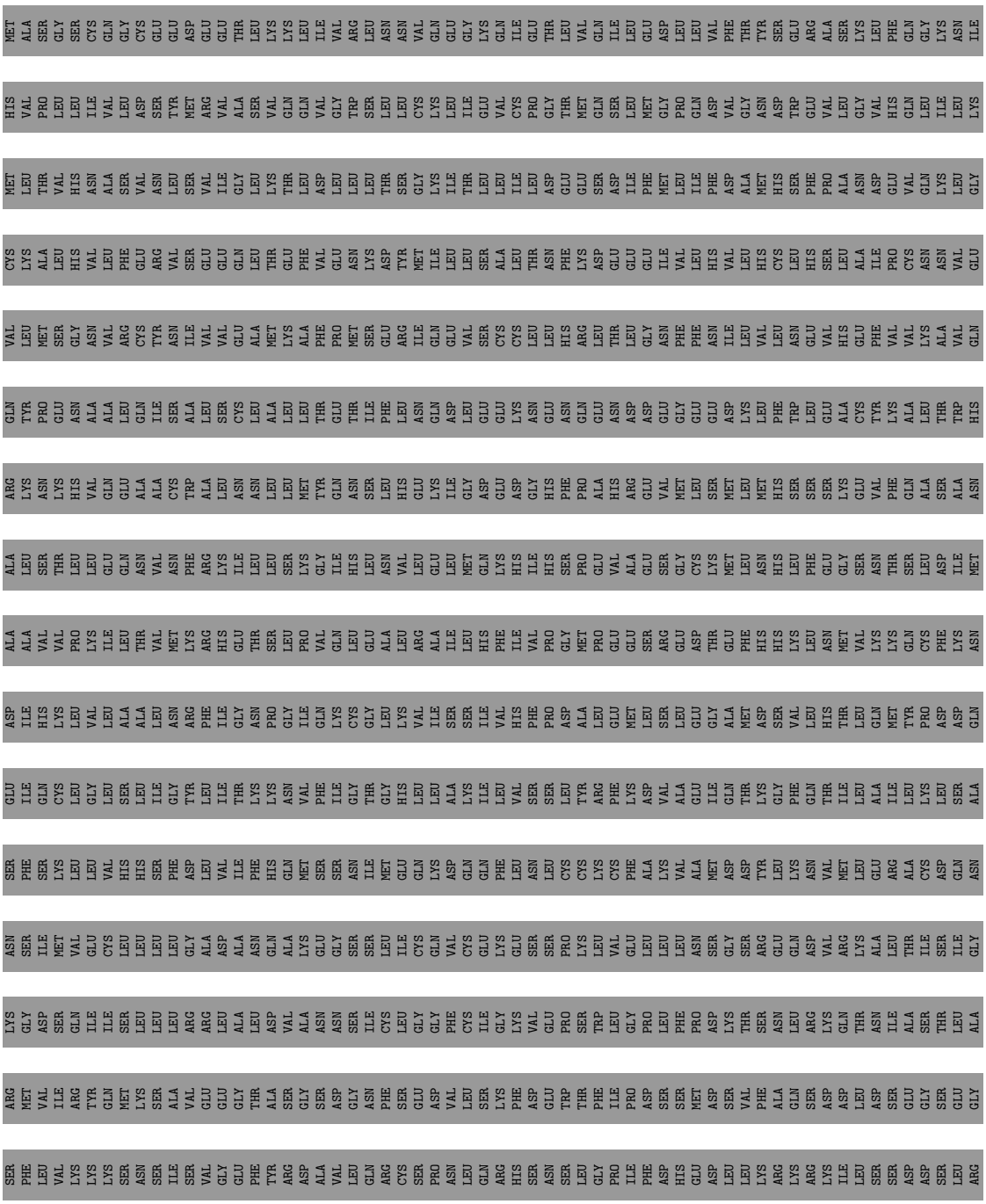
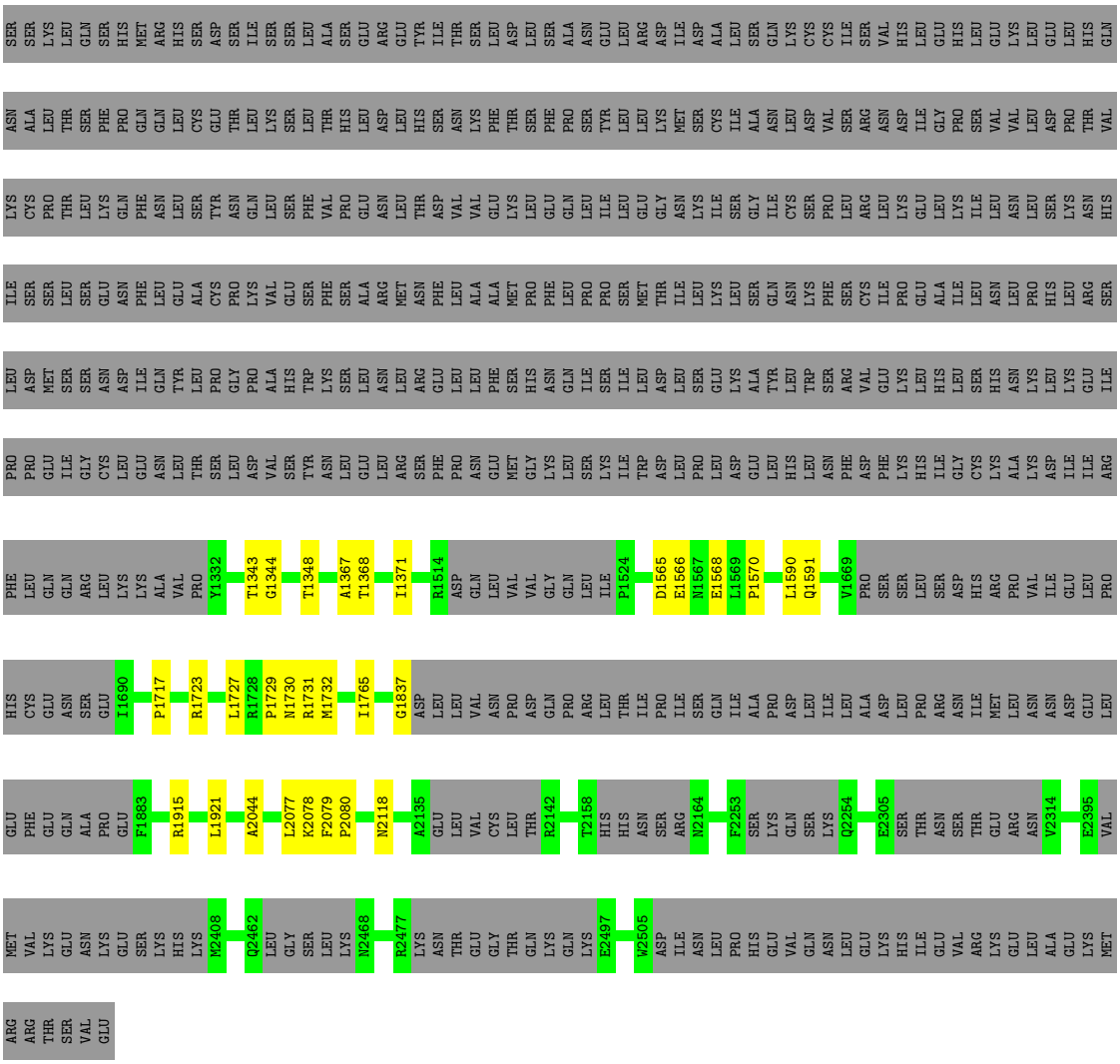
Q2254
E2305
V2314
E2395



• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

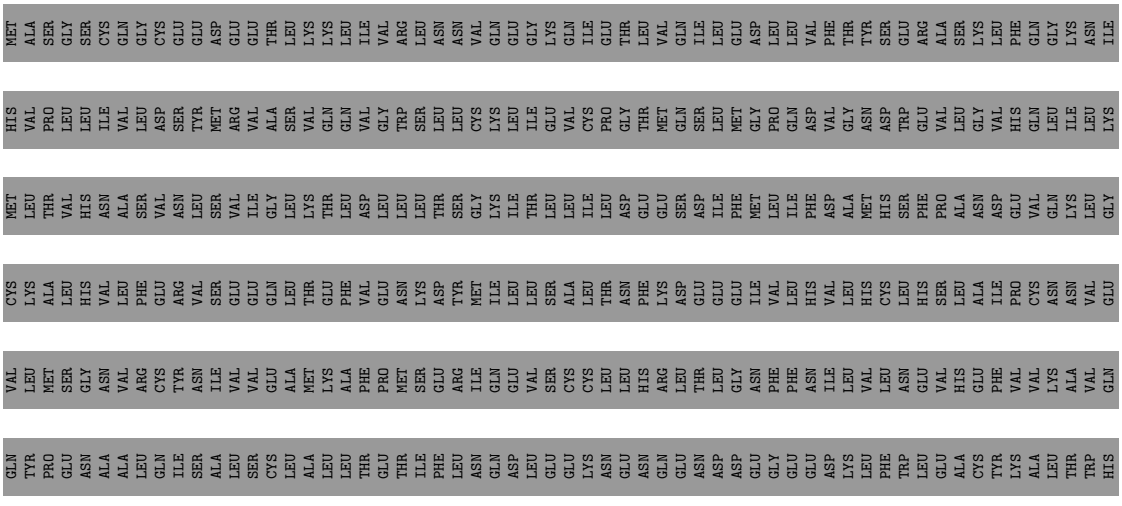
Chain 13-B:

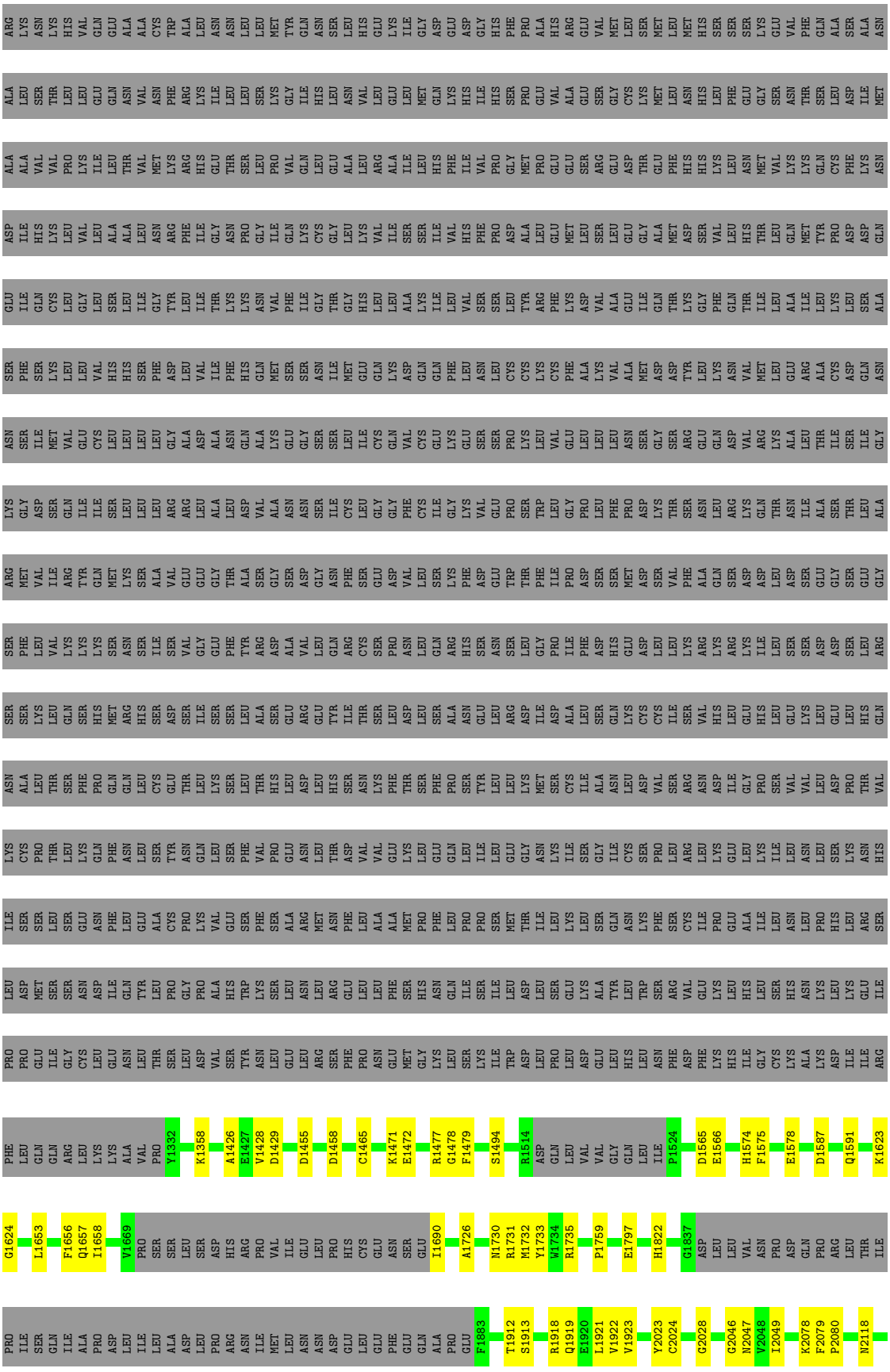


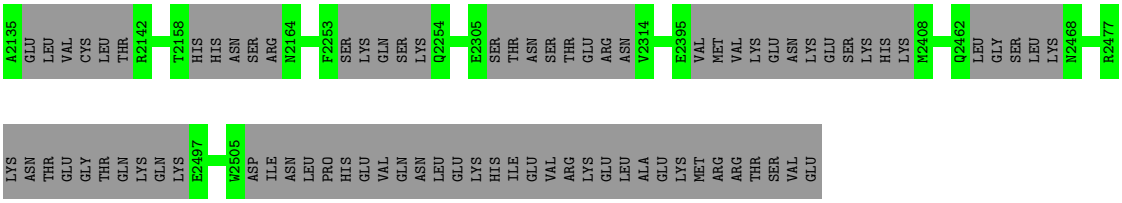


• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

Chain 14-A:

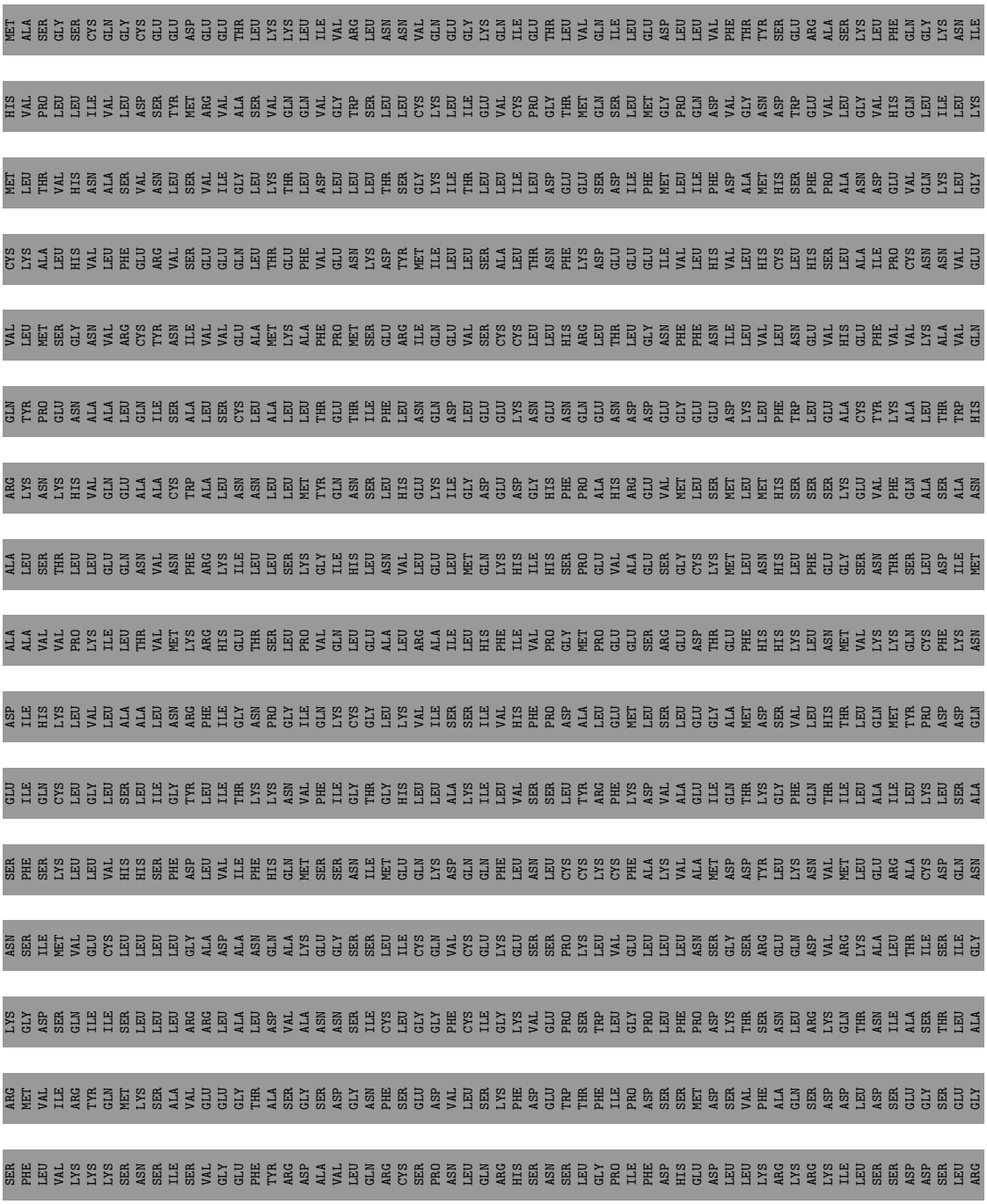


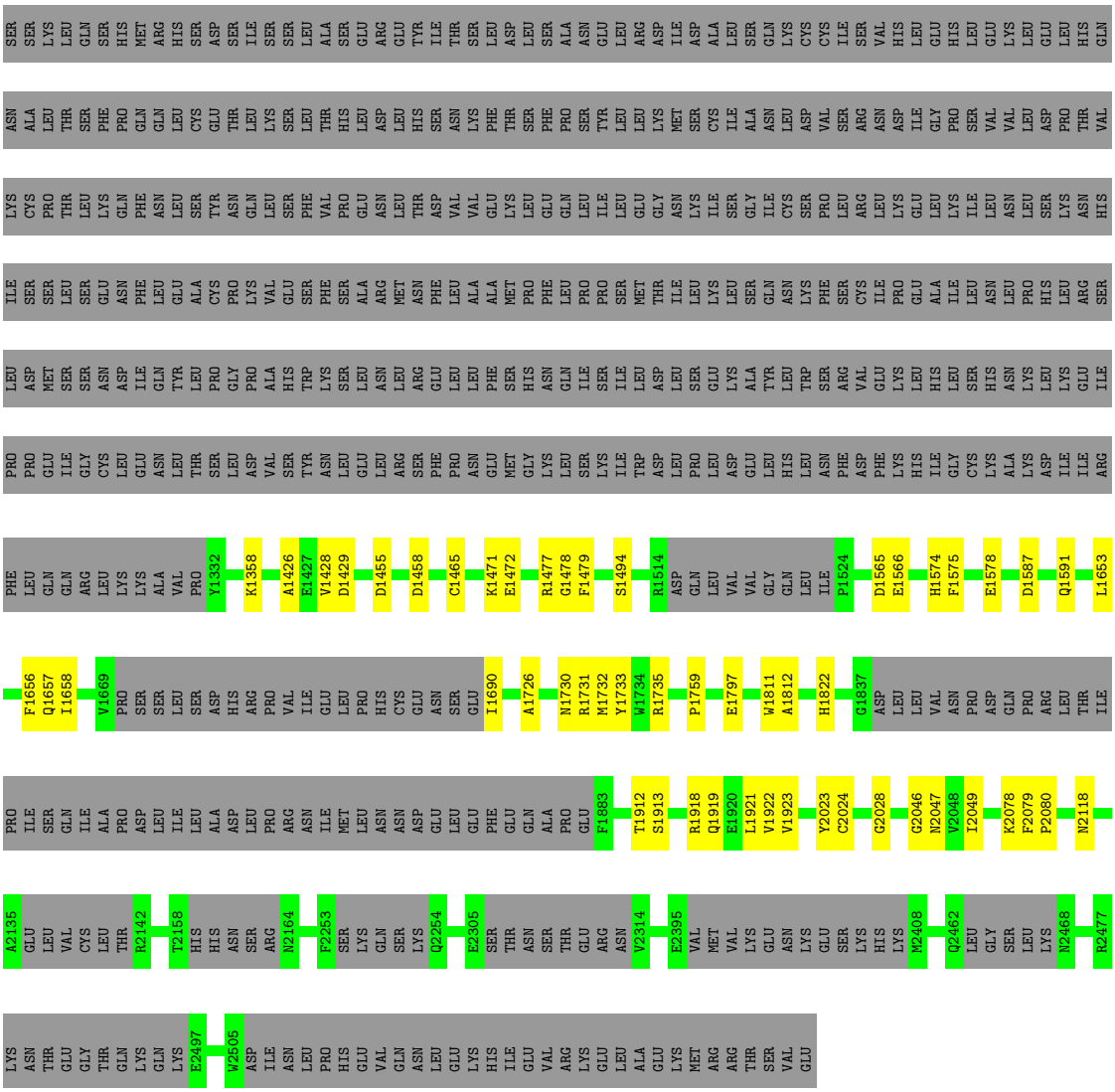

ARG LYS ASN LYS HIS VAL GLN GLU GLU ALA ALA CYS TRP ALA LEU ASN ASN LEU LEU MET TYR GLN ASN SER LEU HIS GLU LYS ILE GLY ASP GLU ASP GLY HIS PHE PRO ALA HIS ARG GLU VAL MET LEU SER MET LEU MET HIS SER SER SER LYS GLU VAL PHE GLN ALA SER ALA ASN
ALA LEU SER THR LEU LEU GLU GLN GLN ASN VAL ASN PHE ARG LYS ILE LEU LEU SER LYS GLY ILE HIS GLU LEU ASN VAL LEU GLU LEU MET GLN LYS HIS ILE HIS SER PRO GLU VAL ALA GLU SER GLY CYS LYS MET LEU ASN HIS LEU PHE GLU GLY SER ASN THR SER LEU ASP ILE MET
ALA ALA VAL VAL PRO LYS ILE LEU LEU THR VAL MET LYS ARG HIS GLU THR SER LEU PRO VAL GLN LEU GLU GLU ALA LEU ARG ALA ILE LEU PRO GLY MET PRO GLU GLU SER ARG GLU ASP THR GLU PHE HIS HIS LYS LEU ASN MET VAL LYS LYS GLN CYS PHE LYS ASN
ASP ILE HIS LYS LEU VAL LEU ALA ALA LEU ASN ARG PHE ILE GLY ASN PRO GLY ILE GLN LYS CYS GLY LEU LYS VAL ILE SER SER ILE VAL HIS PHE PRO ASP ALA LEU GLU MET LEU SER LEU GLU GLY ALA MET ASP SER VAL LEU GLN THR GLU ASP ASP GLN
GLU ILE GLN CYS LEU GLY LEU SER LEU LEU ILE GLY TYR LEU ILE THR LYS LYS ASN VAL PHE ILE GLY GLY THR GLY HIS LEU LEU VAL SER SER LEU TYR ARG PHE LYS ASP VAL ALA GLU ILE GLN LEU THR GLY LYS ASP GLN GLY PHE GLN THR ILE LEU ALA ILE LEU LYS LEU SER ALA
SER PHE SER LYS LEU VAL HIS HIS SER PHE ASP LEU VAL PHE ILE ASP ALA MET SER SER ASN ILE MET GLU GLN LYS ASP GLN GLN PHE LEU ASN SER LEU CYS LYS CYS PHE ALA LYS VAL ALA MET ASP ASP TYR LEU LYS ASN VAL MET LEU GLU ARG GLN ASP ASN
ASN SER ILE MET VAL GLU CYS LEU LEU LEU LEU LEU GLY ALA ASP ALA ASN GLN ALA LYS GLU GLY SER SER LEU ILE CYS LEU GLY GLY PHE CYS ILE GLY LYS VAL GLU SER SER PRO LYS LEU VAL GLU LEU LEU LEU ASN SER GLY SER ARG GLU GLN GLN ASP VAL ARG LYS GLN THR SER ASN LEU GLN ALA LEU ASP ASP GLU ARG
LYS GLY ASP SER GLN ILE ILE SER LEU LEU LEU ARG ARG LEU ALA LEU ASP VAL ALA ASN ASN SER ILE CYS LEU GLY GLY PHE CYS ILE GLY LYS VAL GLU PRO SER TRP LEU GLY PRO LEU PHE PRO ASP LYS THR SER ASN LEU ARG LYS GLN THR ILE LYS ALA LEU THR ILE SER ILE ALA
ARG MET VAL ILE ARG TYR GLN MET LYS SER ALA VAL GLU GLU GLY THR ALA SER GLY SER ASP GLY ASN PHE SER GLU ASP VAL LEU SER LYS PHE ASP GLU TRP THR PHE ILE PRO ASP SER SER MET ASP SER VAL PHE ALA GLN SER ASP ASP LEU ASP SER GLU GLU GLY
SER PHE LEU VAL LYS LYS SER ASN SER ILE SER VAL GLY GLU PHE TYR ARG ASP ALA VAL LEU GLN ARG CYS SER PRO ASN LEU GLN ARG HIS SER ASN SER LEU LEU GLY PRO ILE PHE ASP HIS GLU ASP LEU LEU LYS ARG LYS ILE LEU LEU GLU SER SER ASP ASP SER LEU ARG
SER SER LYS LEU GLN SER HIS MET ARG HIS SER ASP SER ILE SER SER LEU ALA SER GLU GLU ARG GLU TYR ILE THR SER LEU ASP LEU SER ARG ASP GLU ASN GLU LEU ARG ASP ILE ASP ALA LEU SER SER GLN LYS CYS CYS ILE SER VAL HIS LEU GLU GLU HIS LEU GLN HIS
ASN ALA LEU THR SER THR LEU LYS LEU HIS SER ASN LYS PHE THR SER PHE PRO GLN GLN GLN LEU CYS GLU THR LEU LYS THR HIS LEU ASP LEU HIS SER ASN VAL LYS MET SER CYS ILE ALA ASN LEU ASP VAL SER ARG ASN ASP ILE LEU GLY PRO LEU PRO THR VAL
LYS CYS PRO THR LEU LYS GLN PHE ASN LEU GLU SER TYR ASN GLN LEU SER PHE VAL PRO GLU ASN LEU THR ASP VAL VAL GLU LYS LEU GLU GLN LEU ILE LEU PRO PRO SER ILE LEU LYS LEU SER GLY ILE CYS SER PRO LEU ARG LEU LYS ILE ILE LEU LEU ASN LEU SER LEU GLU LEU ASN HIS
ILE SER SER LEU SER GLU ASN PHE LEU ALA ALA MET PRO PHE LEU PRO PRO SER LEU ILE LYS LEU SER GLN ASN LYS PHE SER CYS ILE PRO GLU GLU ALA ILE LEU ASN LEU ARG LEU ARG SER
LEU ASP MET SER SER HIS ASN GLN ILE GLN LEU LEU PHE SER HIS ASN GLU VAL GLU LYS ALA TYR LEU TRP SER ARG VAL GLU LYS LEU ASN ASP LEU SER SER HIS LEU ASN LYS LEU HIS LEU SER HIS ASN LEU LEU PRO HIS LEU ARG SER ILE
PRO PRO GLU ILE GLY CYS LEU GLU ASN LEU THR SER LEU PRO ASP VAL SER TYR ASN LEU GLU LEU ARG SER PHE PRO ASN GLU MET GLY LYS LEU SER ILE TRP ASP LEU PRO LEU ASP GLU LEU HIS LEU ASN PHE ASP PHE LYS HIS ILE GLY CYS LYS ALA LYS ASP ILE ILE ARG
PHE LEU GLN GLN ARG LEU TYR LEU PRO GLY PRO ALA HIS TRP LYS SER LEU ASN LEU ARG GLU LEU LEU ARG ARG SER HIS ASN GLN ILE SER ILE LEU ASP LEU SER ALA TYR LEU TRP SER ARG VAL GLU LYS LEU ASN ASP LEU SER SER HIS ASN LYS LEU HIS LEU SER VAL LEU GLU LYS ILE LEU
Y1332 K1358 A1426 E1427 V1428 D1429 D1455 D1458 C1465 K1471 E1472 R1477 G1478 F1479 S1494 R1514 P1524 D1565 E1566 H1574 F1575 E1578 D1587 Q1591 K1623
G1624 L1653 F1656 Q1657 I1658 V1669 I1690 A1726 N1730 R1731 M1732 Y1733 W1734 R1735 P1759 E1797 H1822 G1837
PRO SER SER LEU SER ASP HIS ARG PRO VAL ILE GLU LEU PRO HIS CYS GLU ASN SER GLU
ASP LEU LEU VAL ASP LEU ASP GLU LEU LEU ASP ASP ASP GLU LEU GLU PHE LEU ALA GLU GLN ALA PRO GLU
F1883 T1912 S1913 R1918 Q1919 E1920 L1921 V1922 V1923 Y2023 C2024 G2028 G2046 N2047 V2048 I2049 K2078 F2079 P2080 N2118



• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

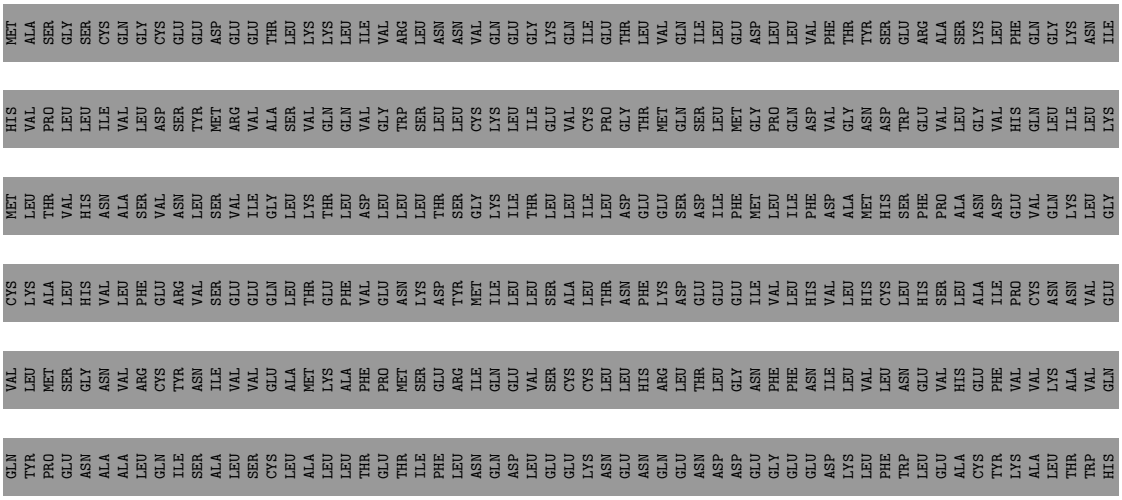
Chain 14-B:

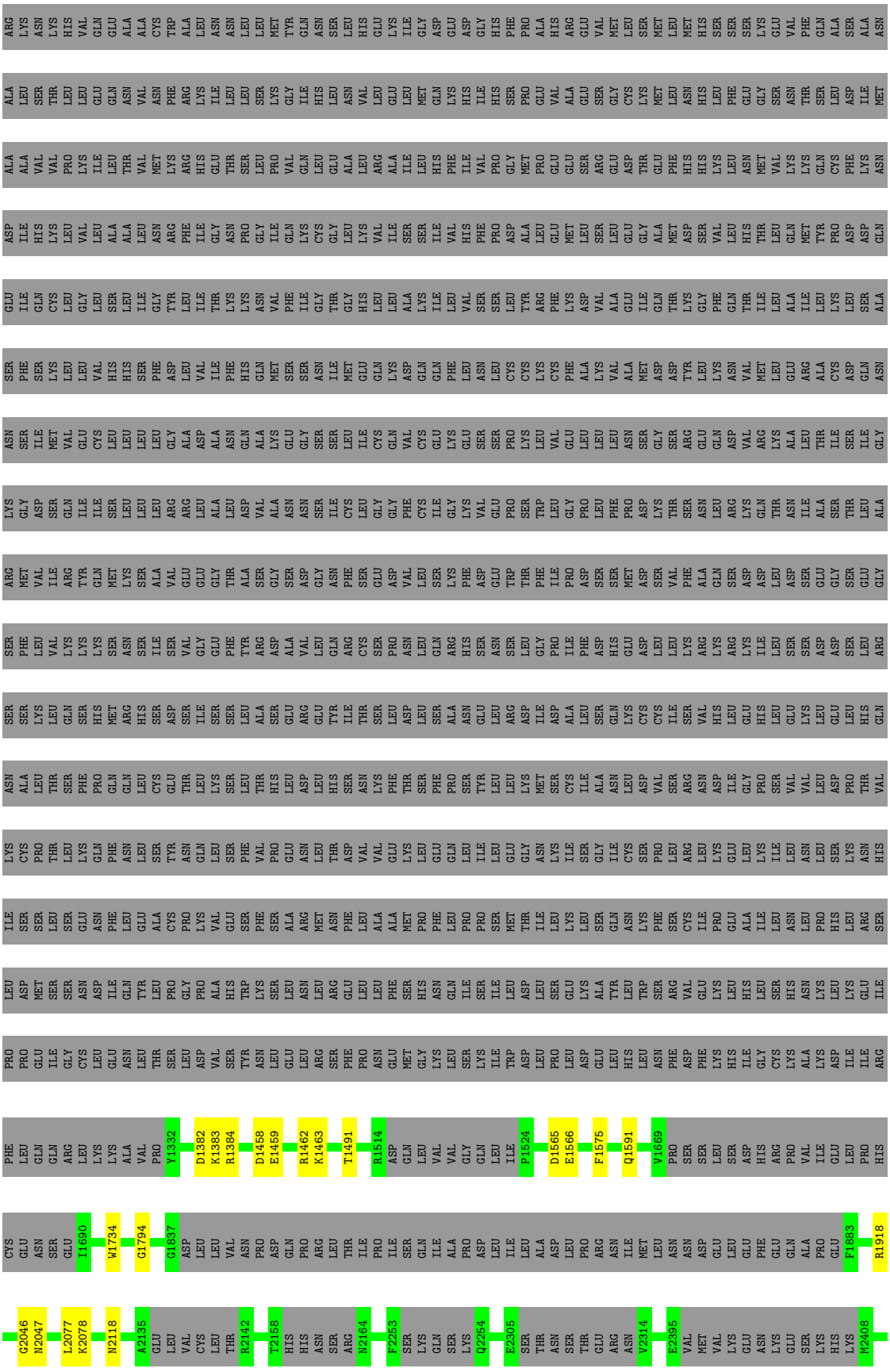




• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

Chain 15-A:

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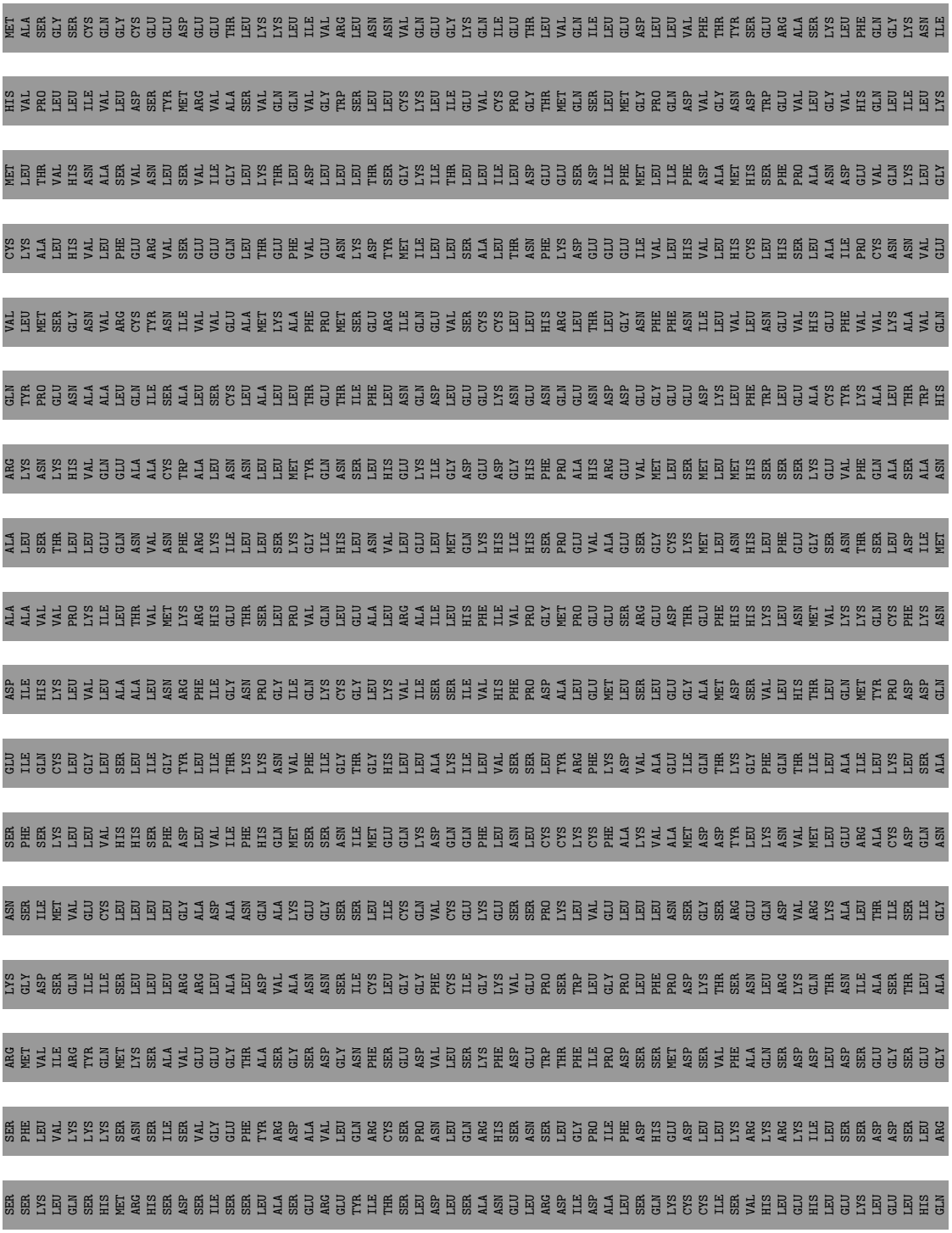
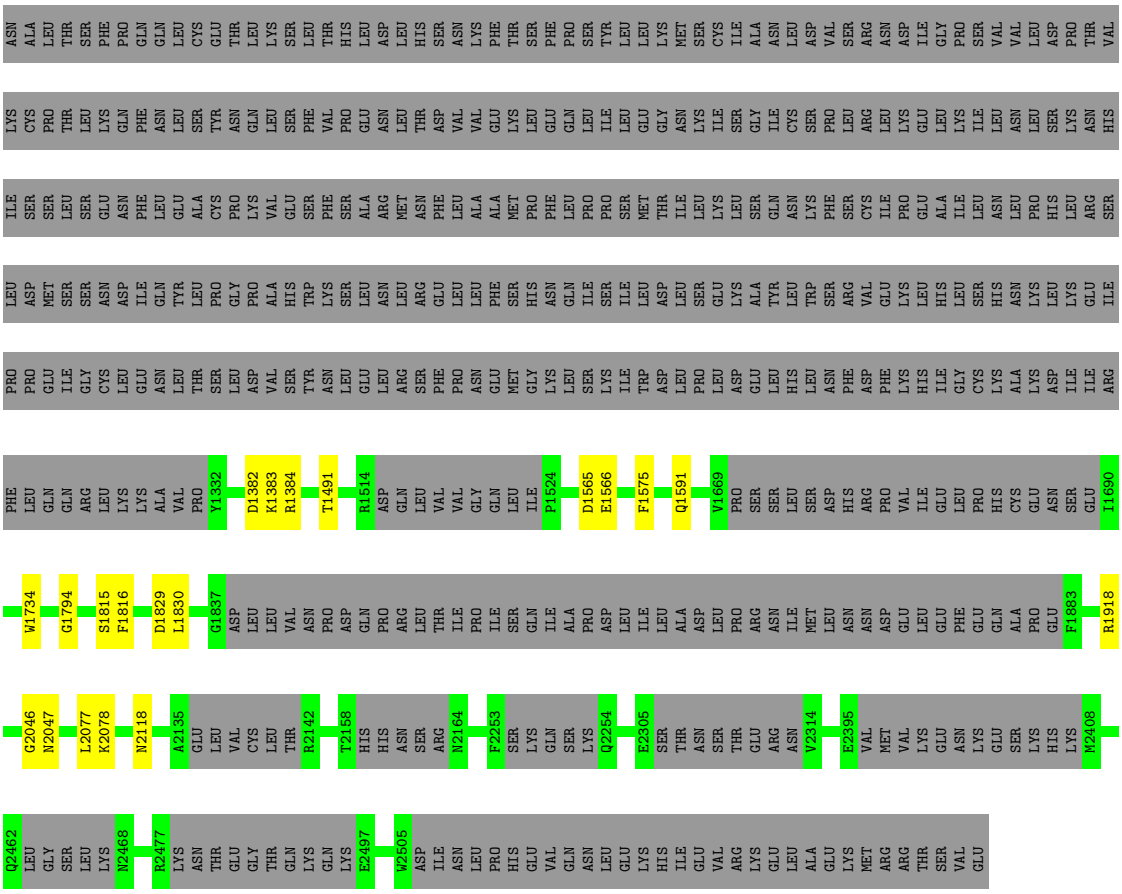
D1382
K1383
R1384
D1458
E1459
R1462
K1463
T1491
R1514
P1524
D1565
E1566
F1575
Q1591
V1669
I1690
W1734
G1794
G1837
F1883
R1918
G2046
N2047
L2077
K2078
N2118
A2135
R2142
T2158
F2253
Q2254
E2305
V2314
E2395
M2408

• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

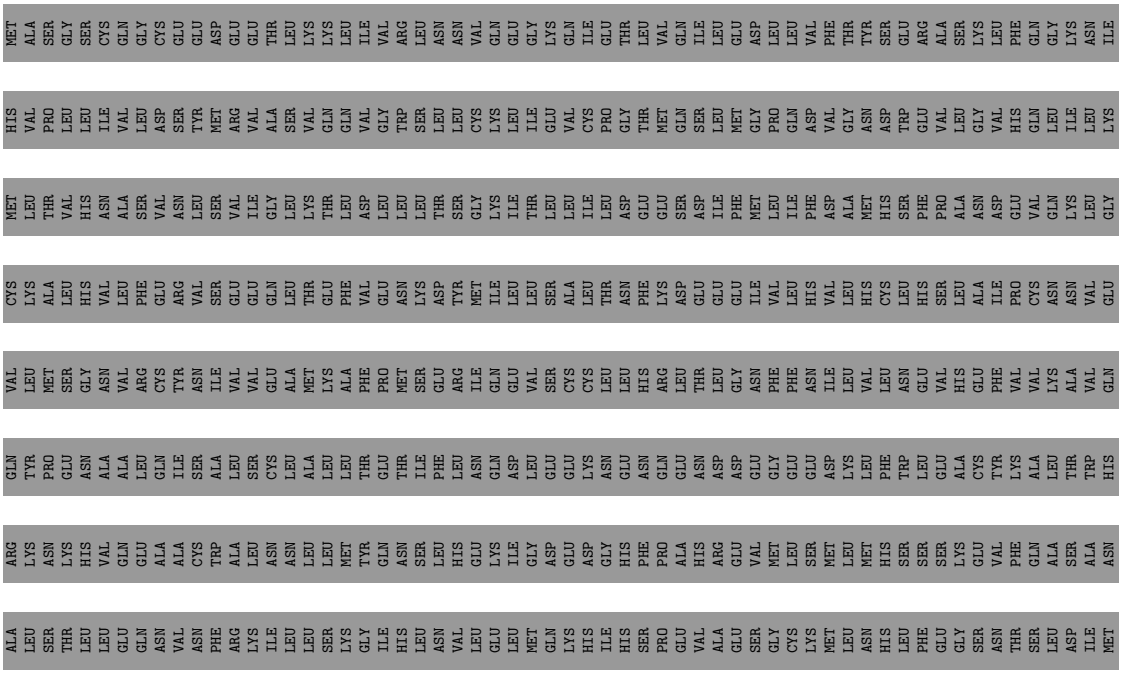
Chain 15-B:

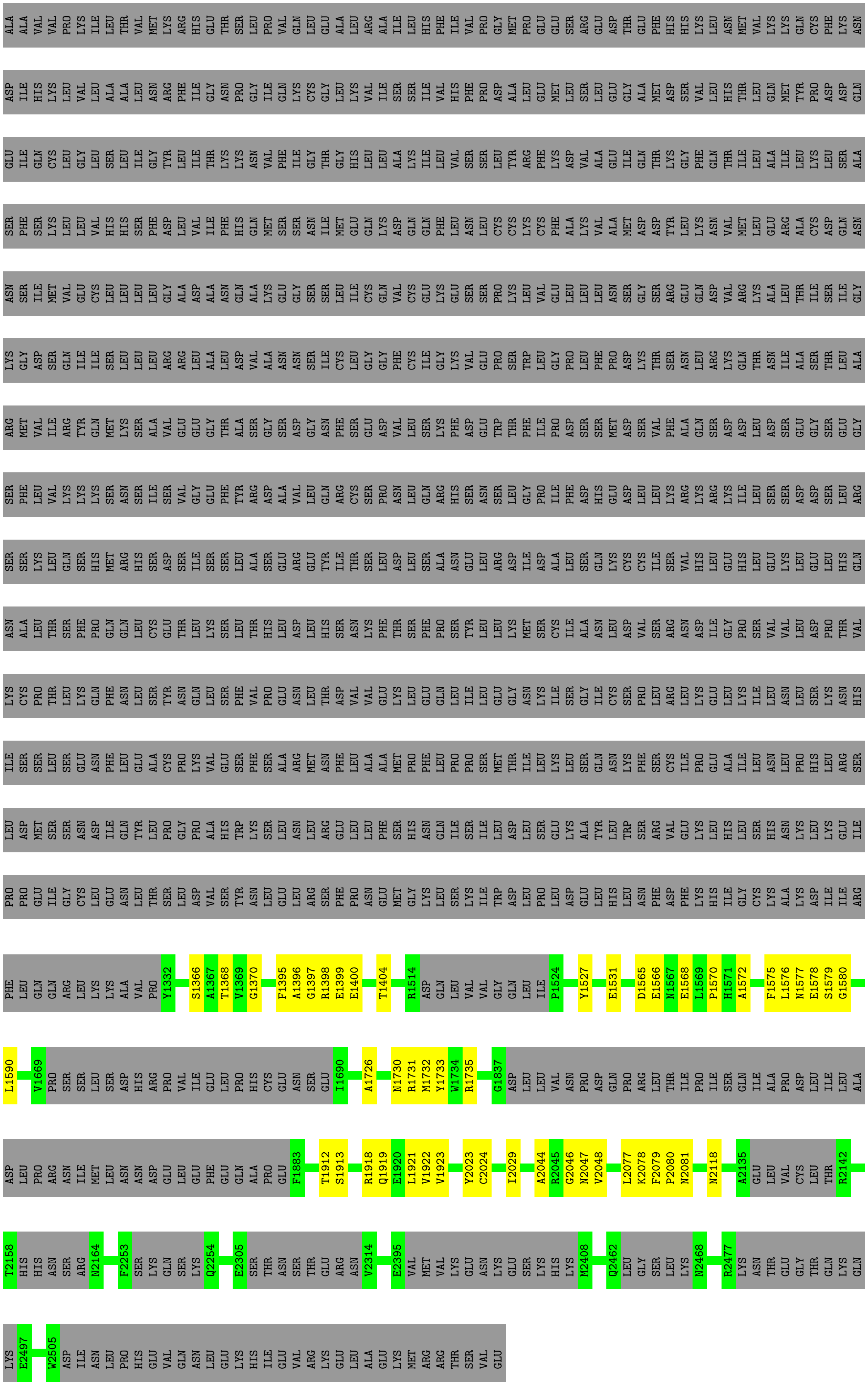




• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

Chain 16-A:

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S1366
A1367
T1368
V1369
G1370
F1395
A1396
G1397
R1398
E1399
E1400
T1404
R1514
P1524
Y1527
E1531
D1565
E1566
N1567
E1568
L1569
P1570
H1571
A1572
F1575
L1576
N1577
E1578
S1579
G1580
L1590
V1669
I1690
A1726
N1730
R1731
M1732
Y1733
W1734
R1735
G1837
F1883
T1912
S1913
R1918
Q1919
E1920
L1921
V1922
V1923
Y2023
C2024
I2029
A2044
R2045
G2046
N2047
V2048
L2077
K2078
F2079
P2080
N2081
N2118
A2135
R2142
T2158
N2164
F2253
Q2254
E2305
V2314
E2395
M2408
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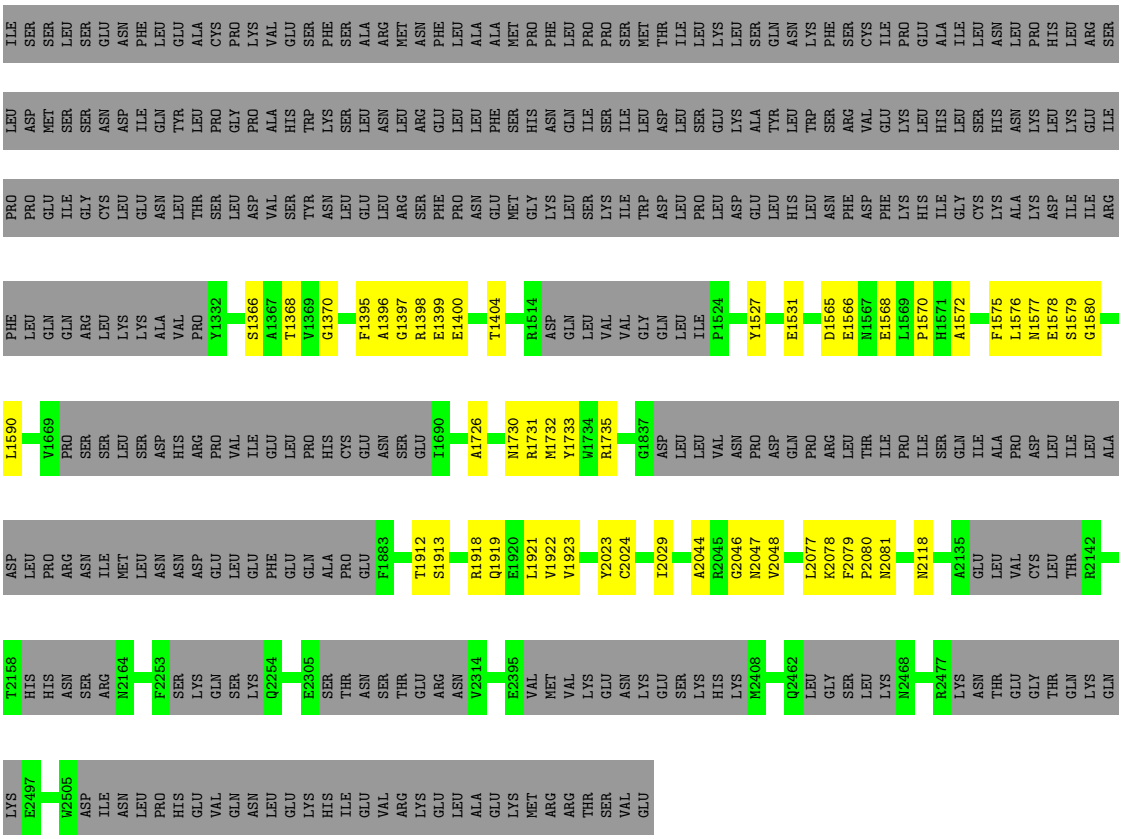
N2468
R2477
E2497
W2505

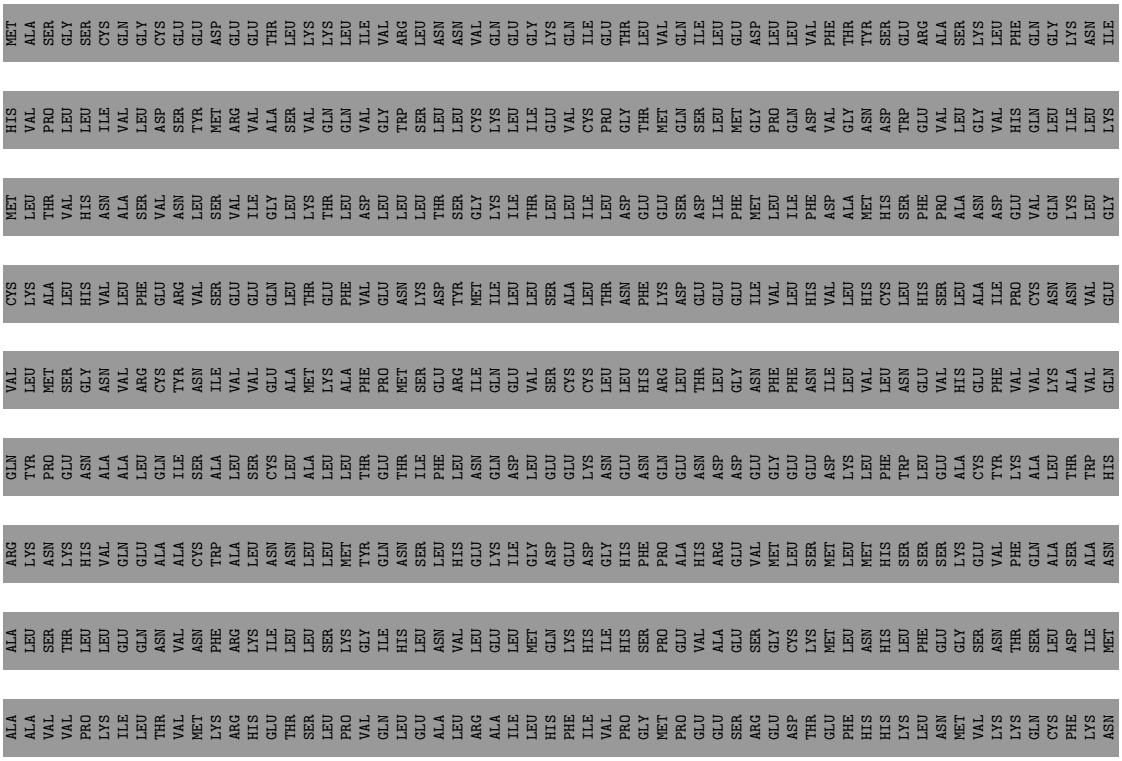
• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

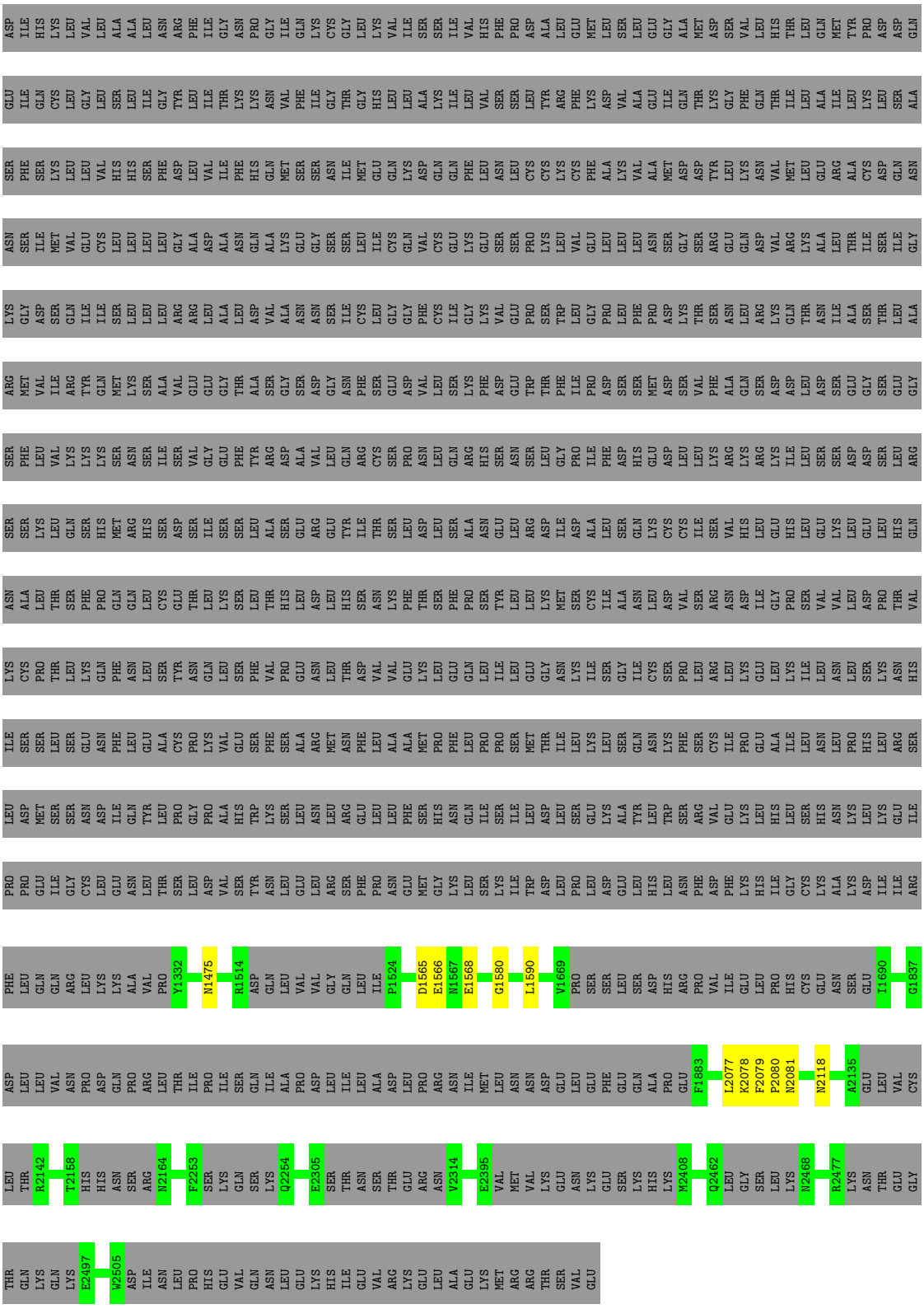
Chain 16-B: 



• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

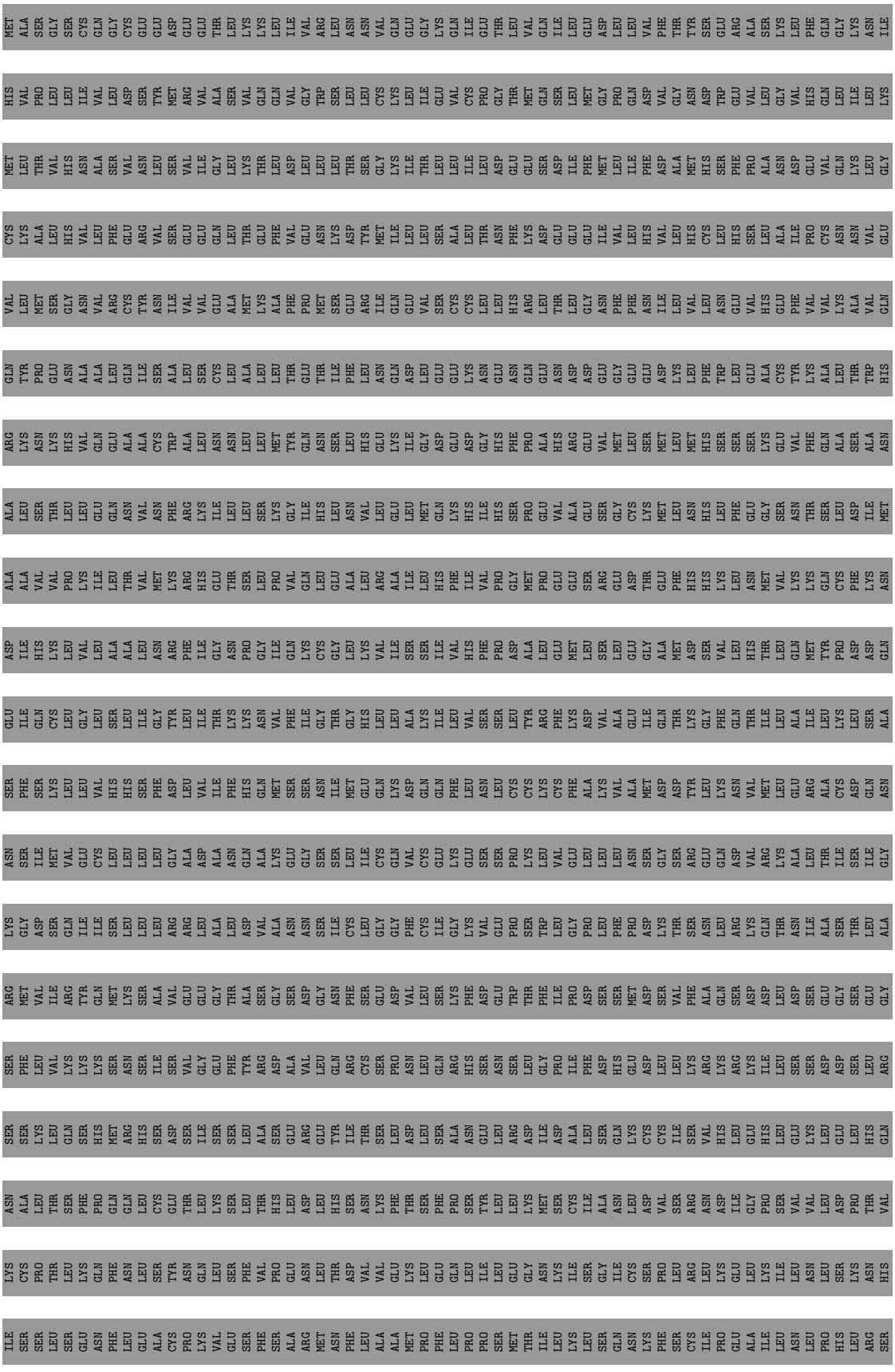
Chain 17-A: 41% 59%

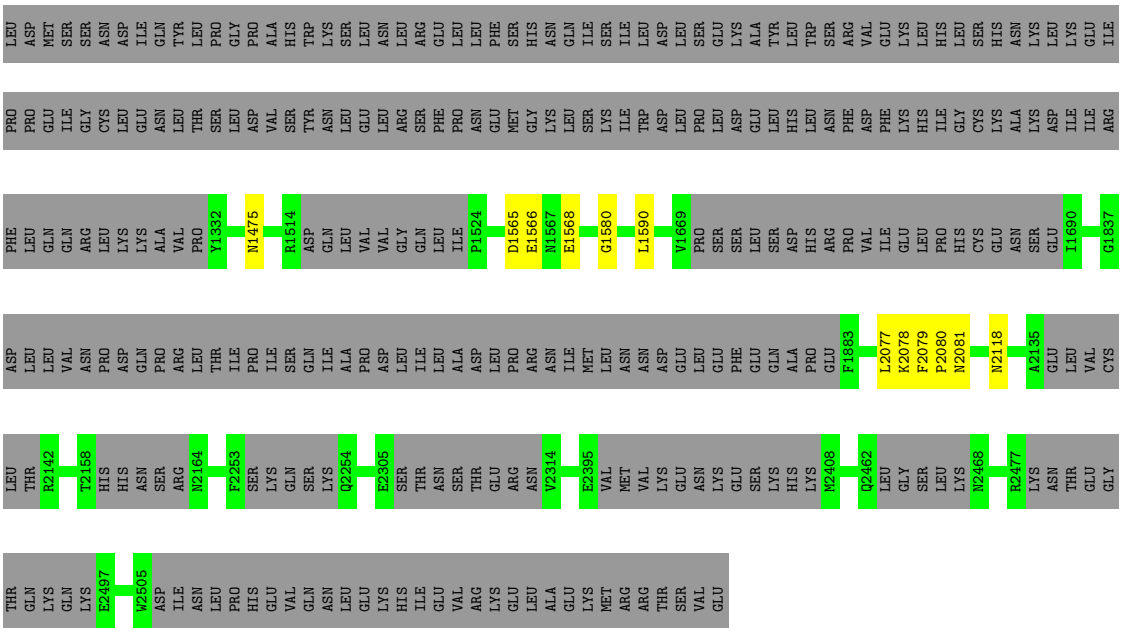




• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

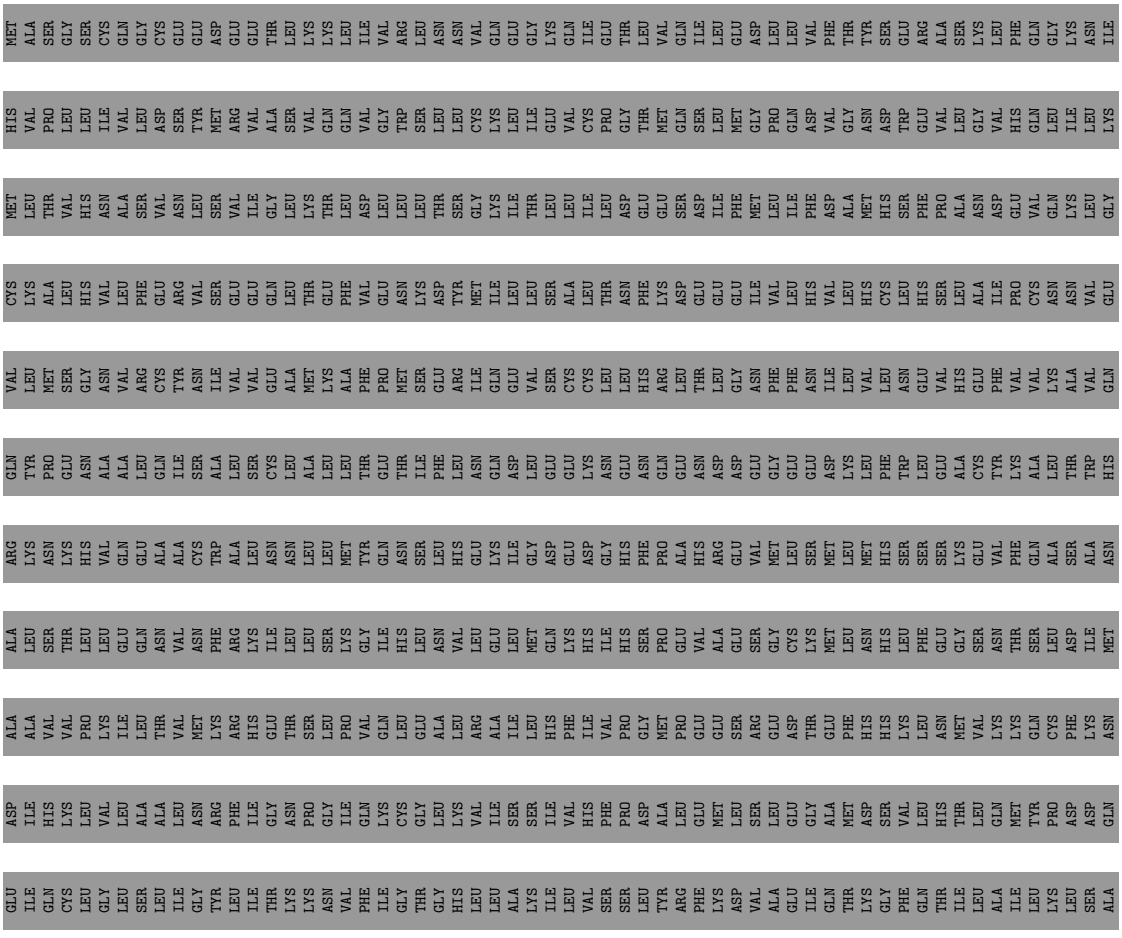
Chain 17-B:

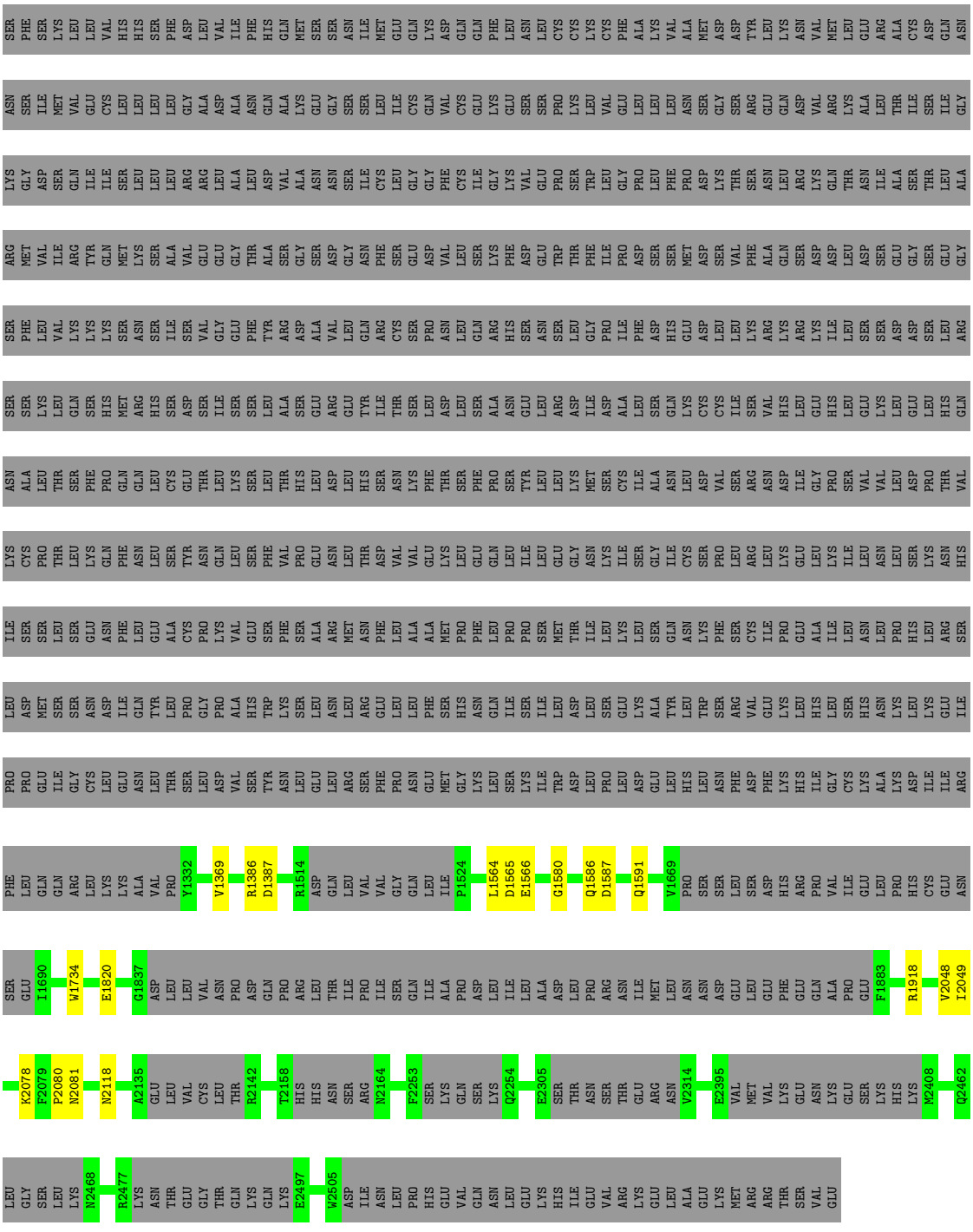




• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

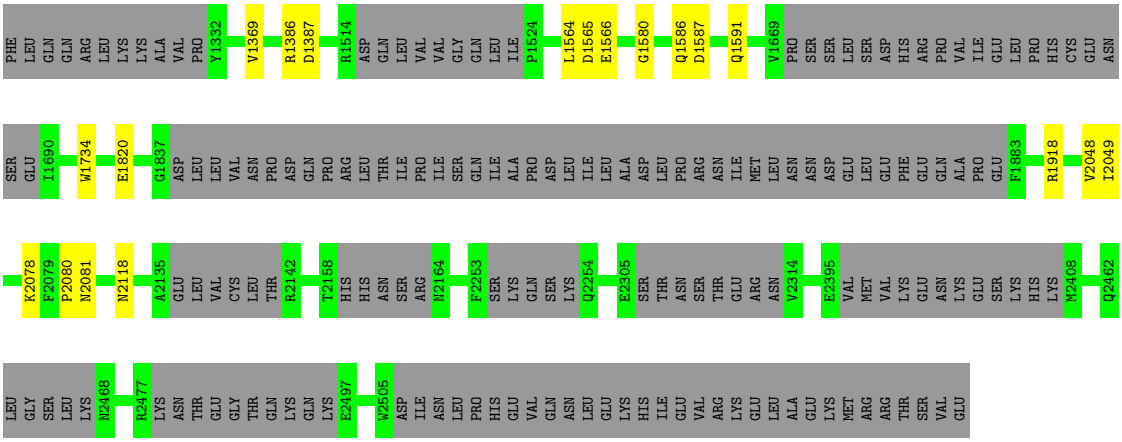
Chain 18-A:





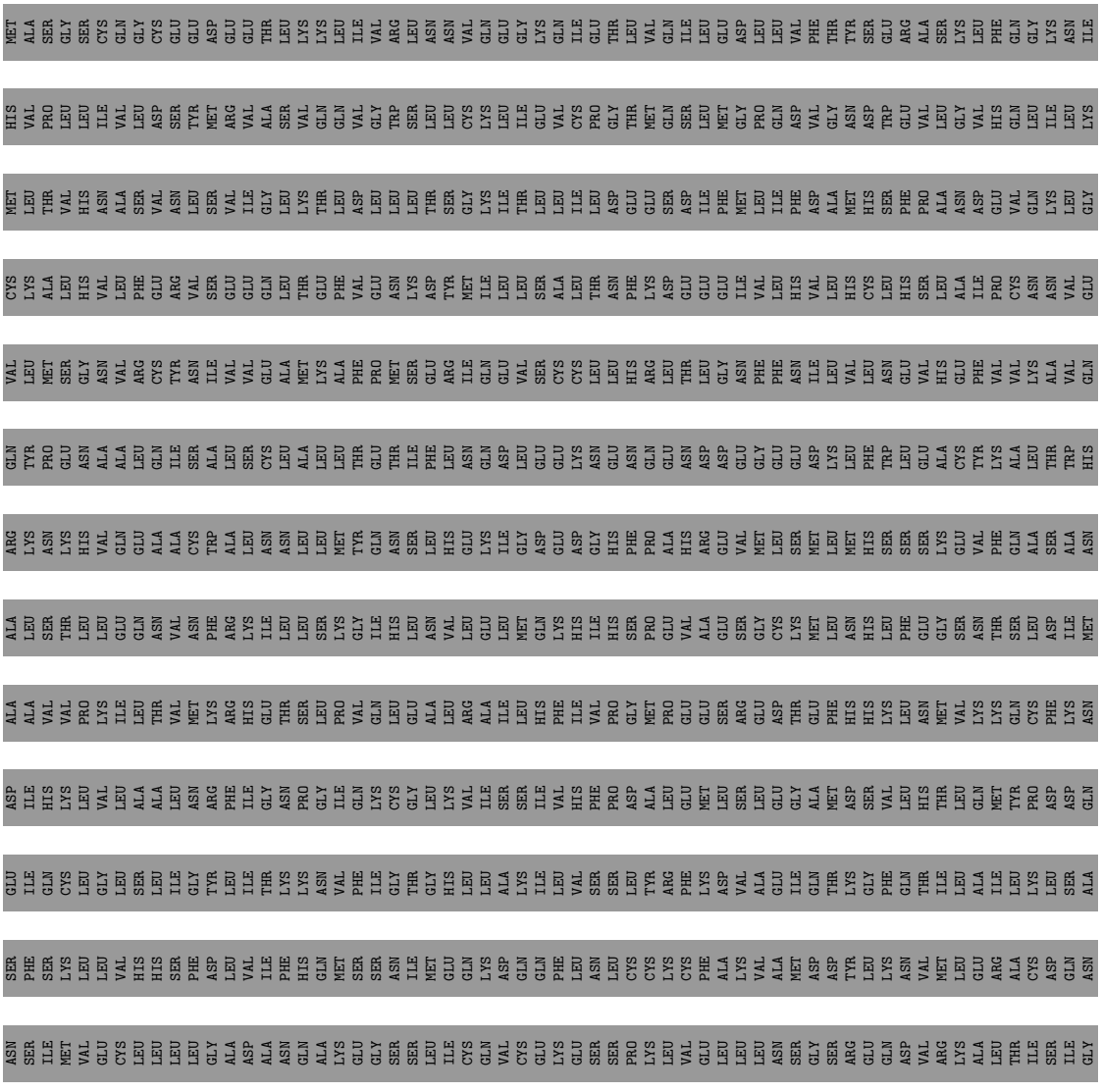
• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

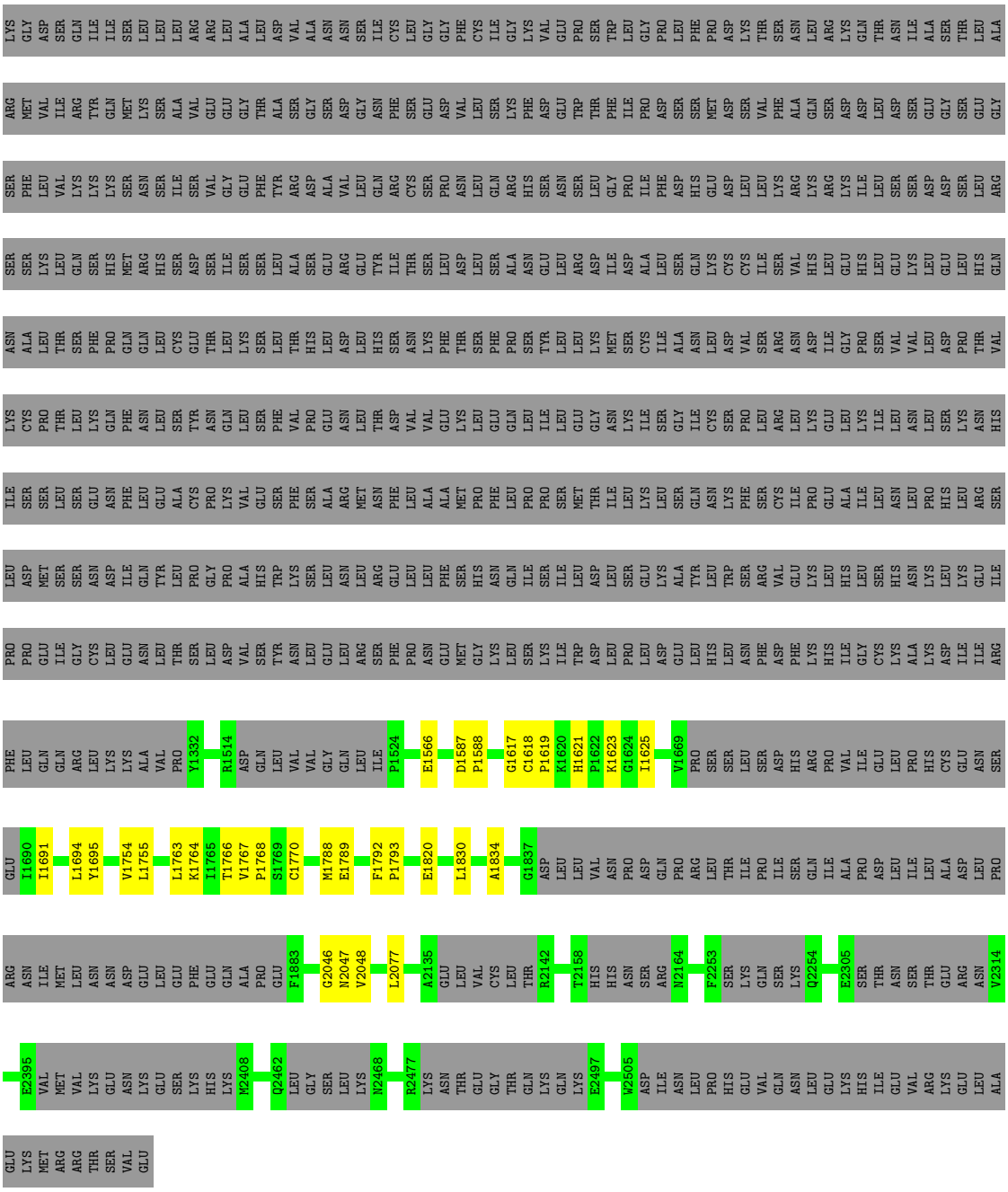
Chain 18-B:



• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

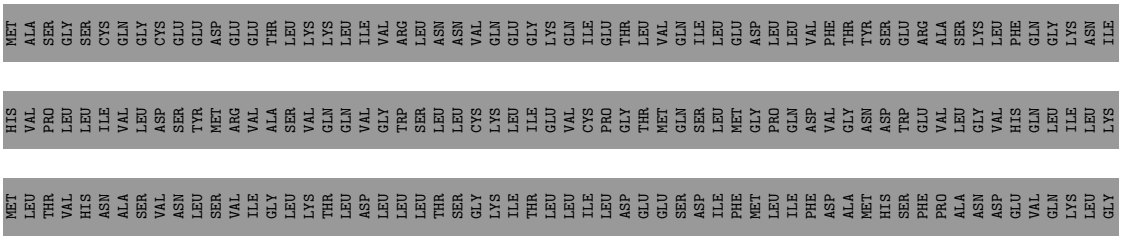
Chain 19-A: 40% 59%

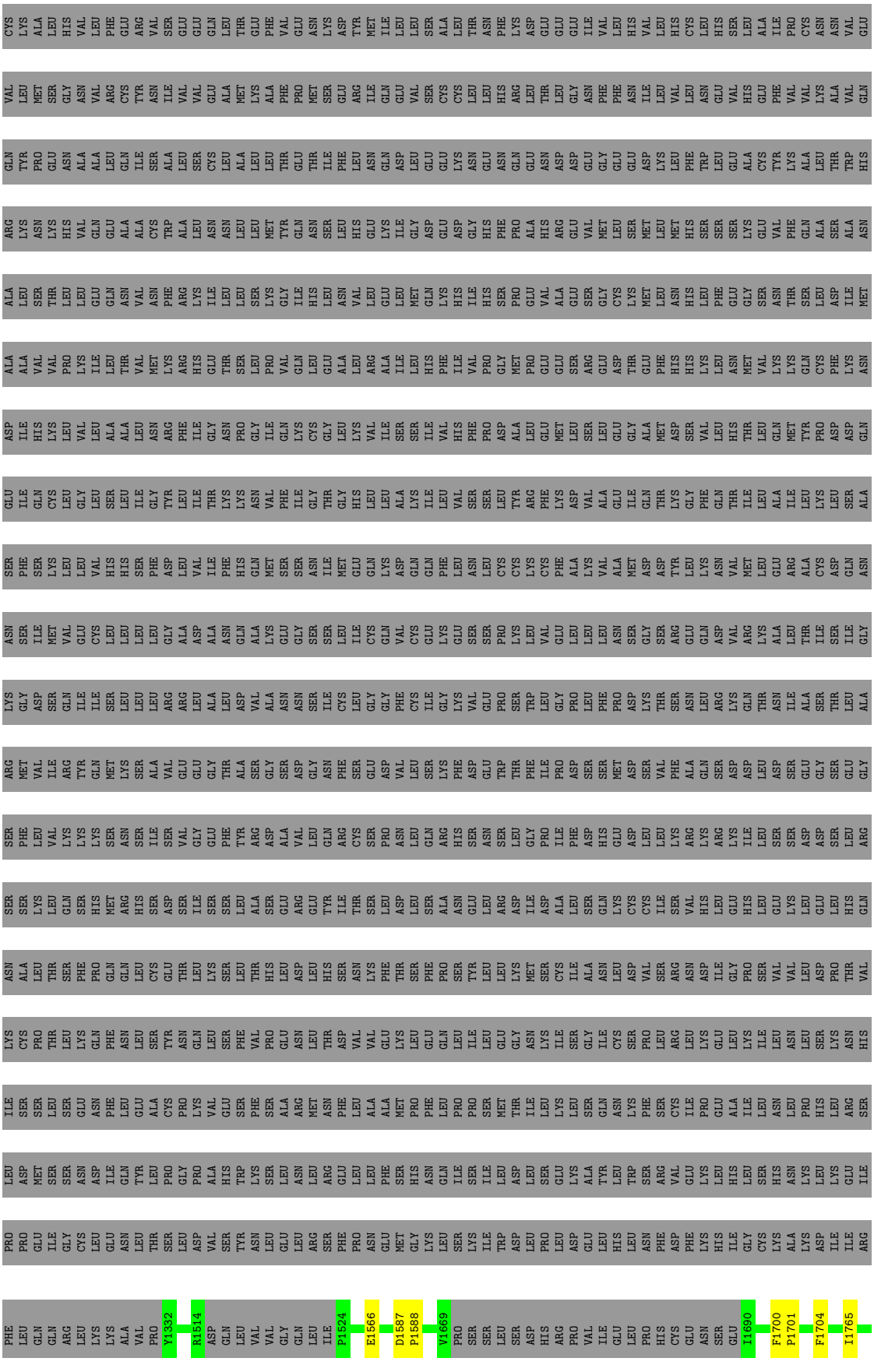




• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

Chain 19-B:

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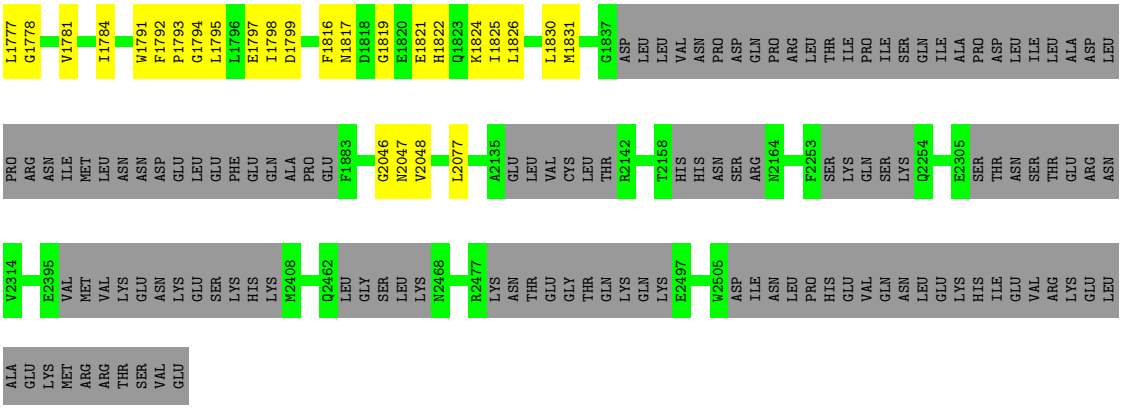
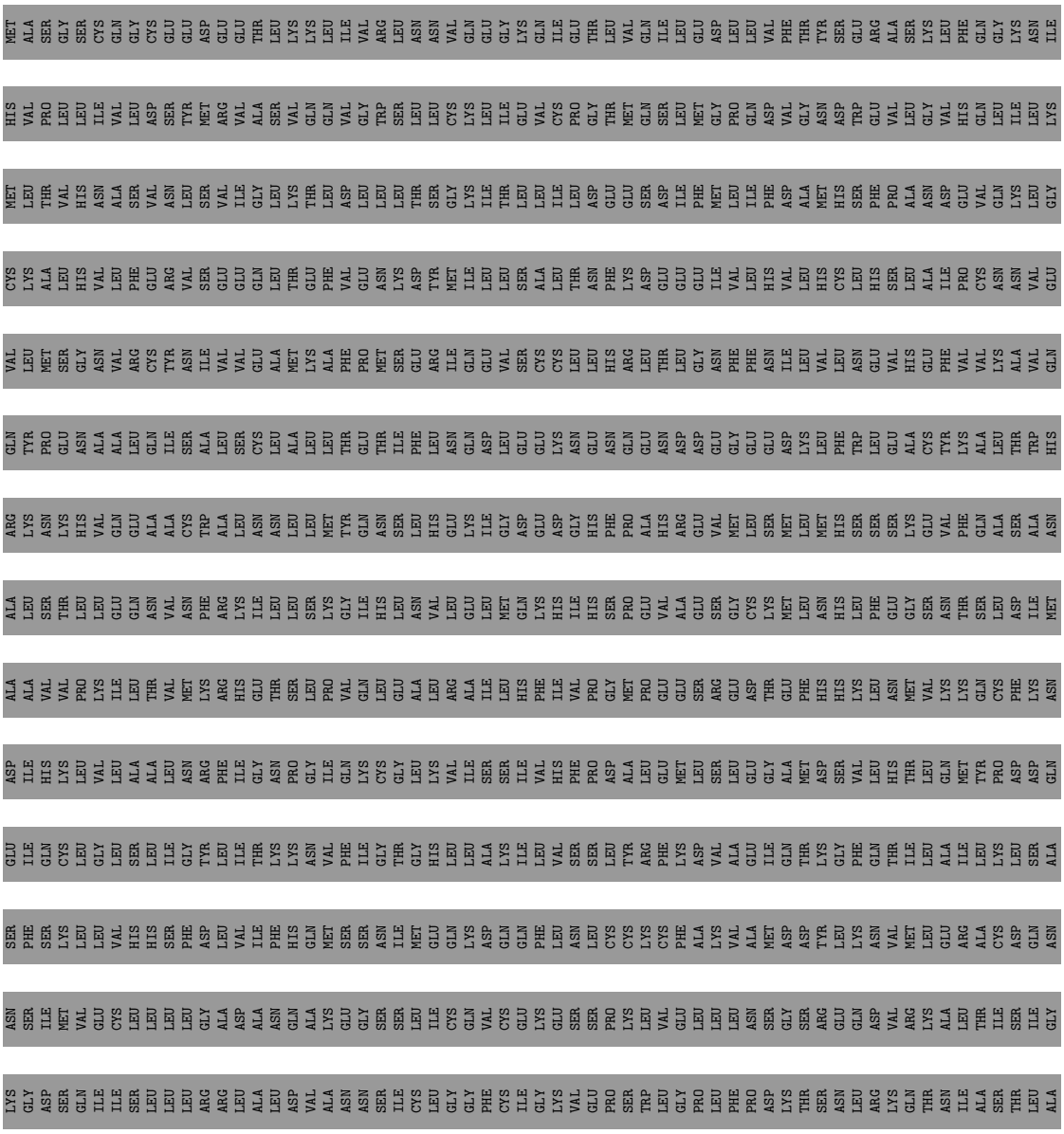
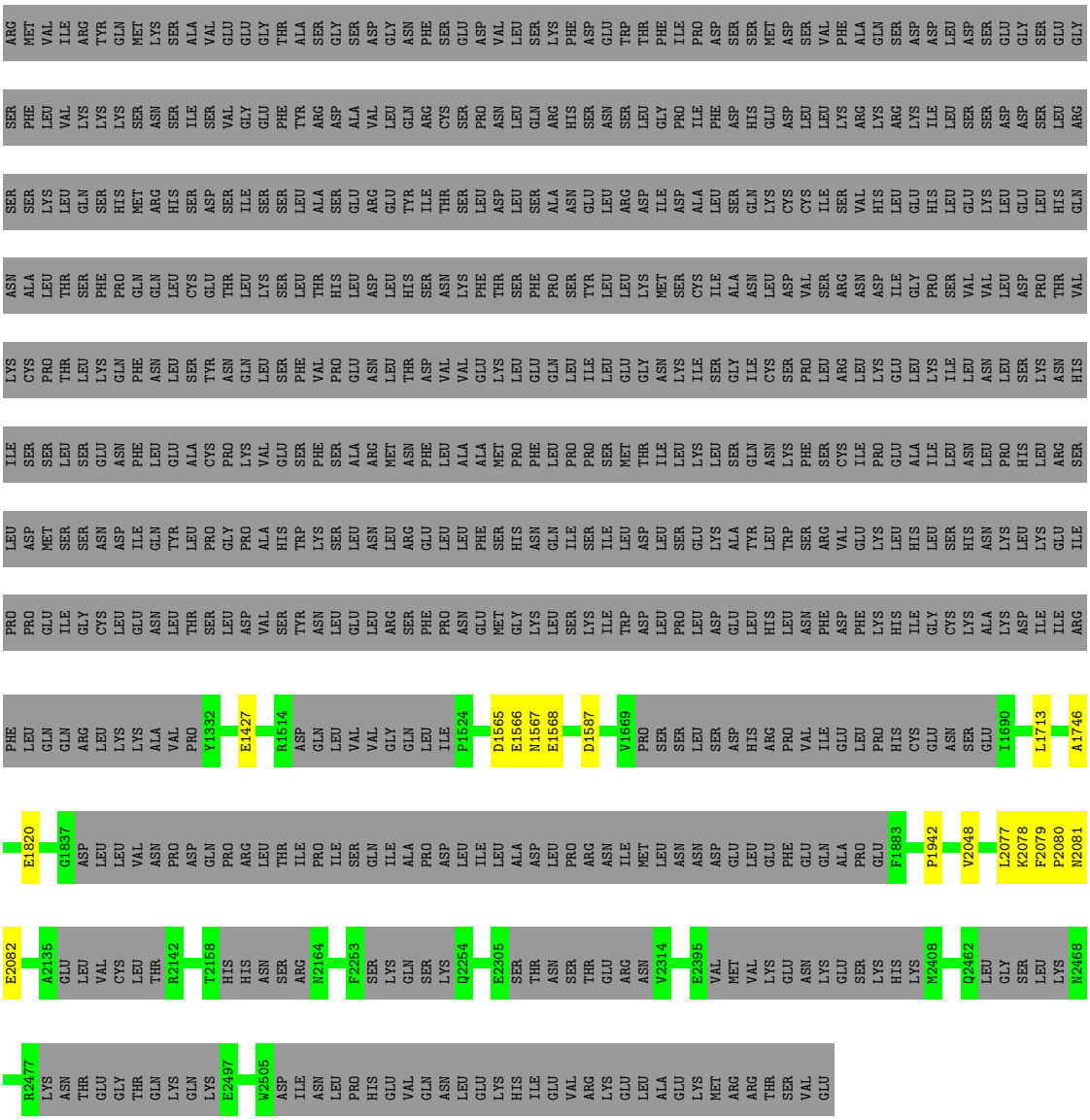
P1524
E1566
D1587
P1588
V1669
I1690
F1700
P1701
F1704
I1765



• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

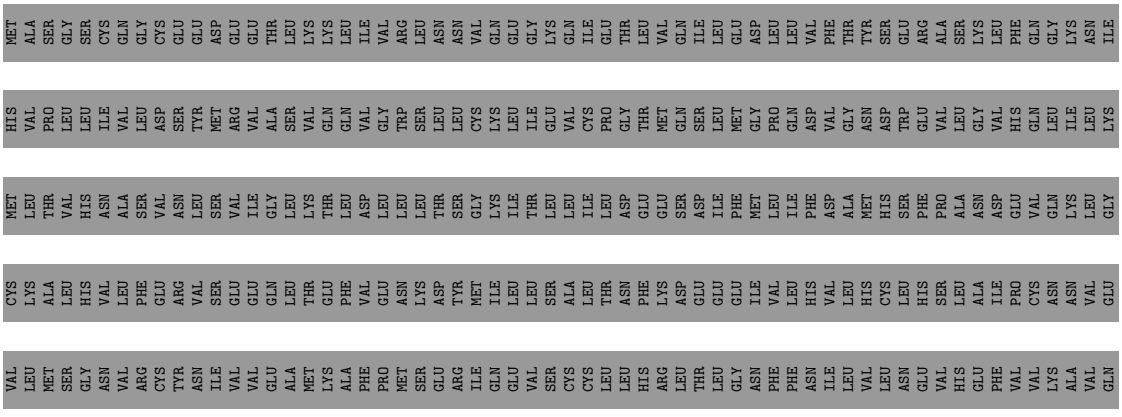
Chain 20-A: 40% 59%

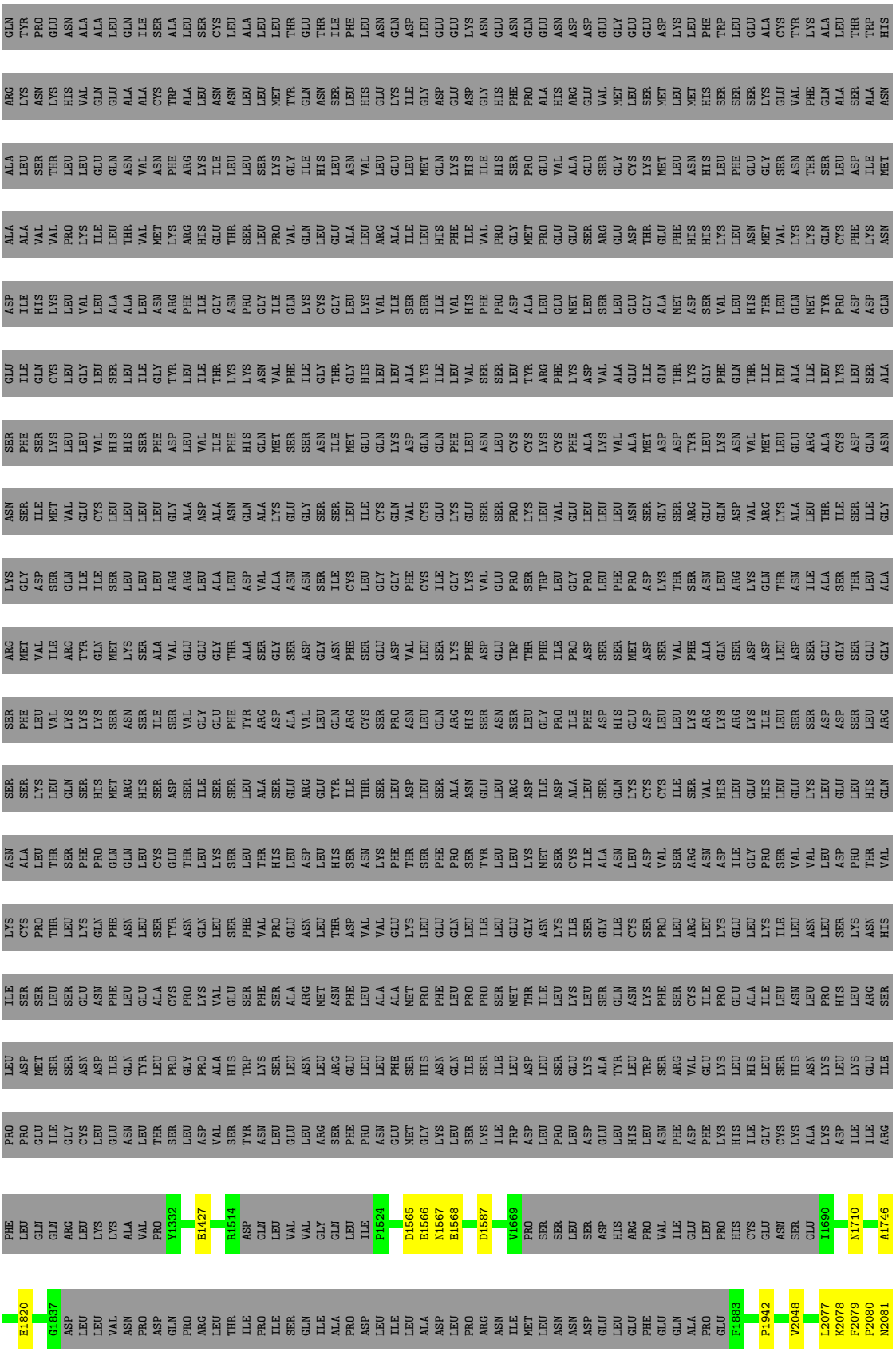




• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

Chain 20-B:

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R1514
P1524
D1565
E1566
N1567
E1568
D1587
V1669
I1690
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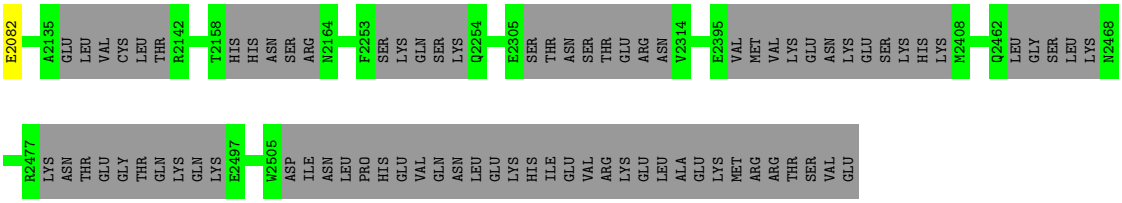
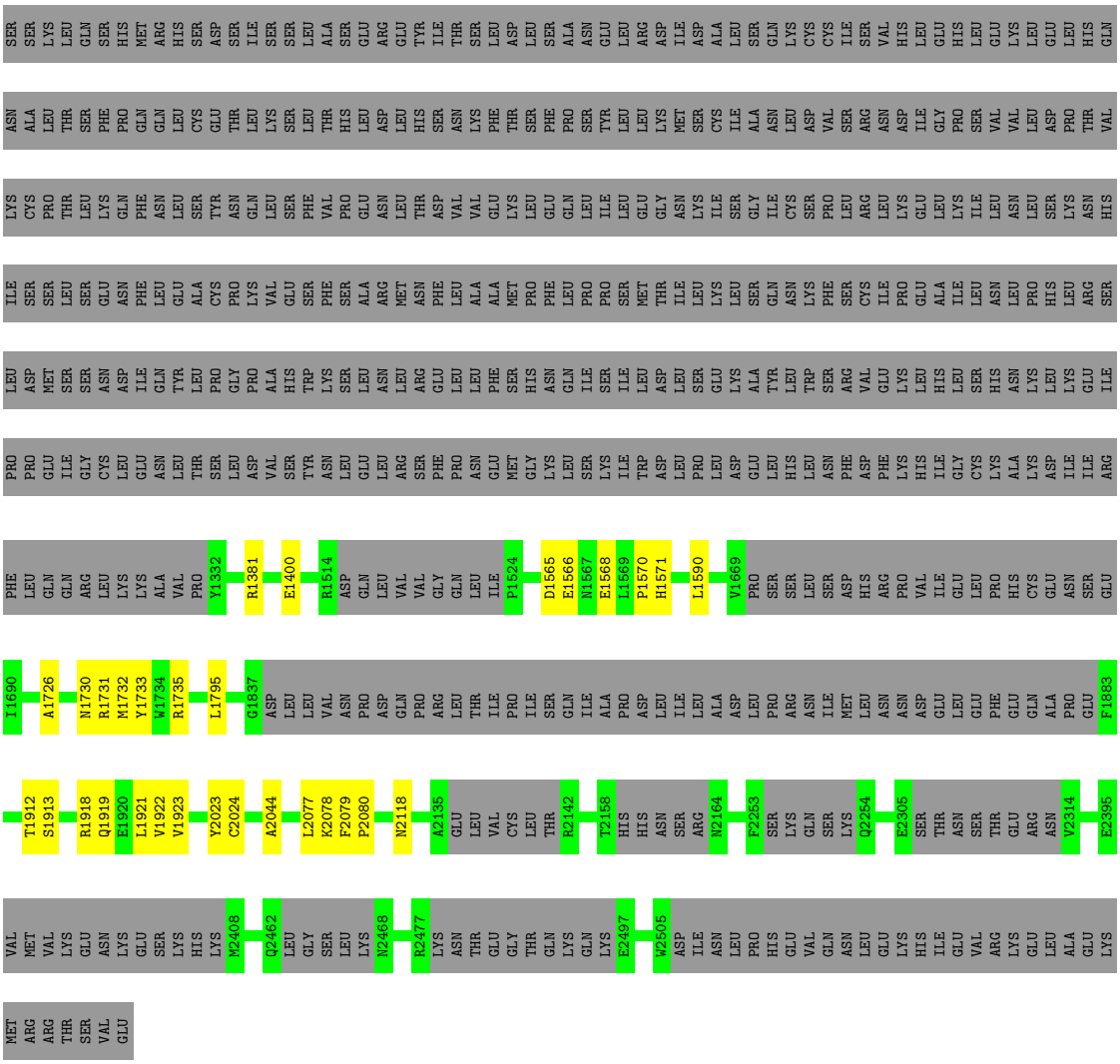


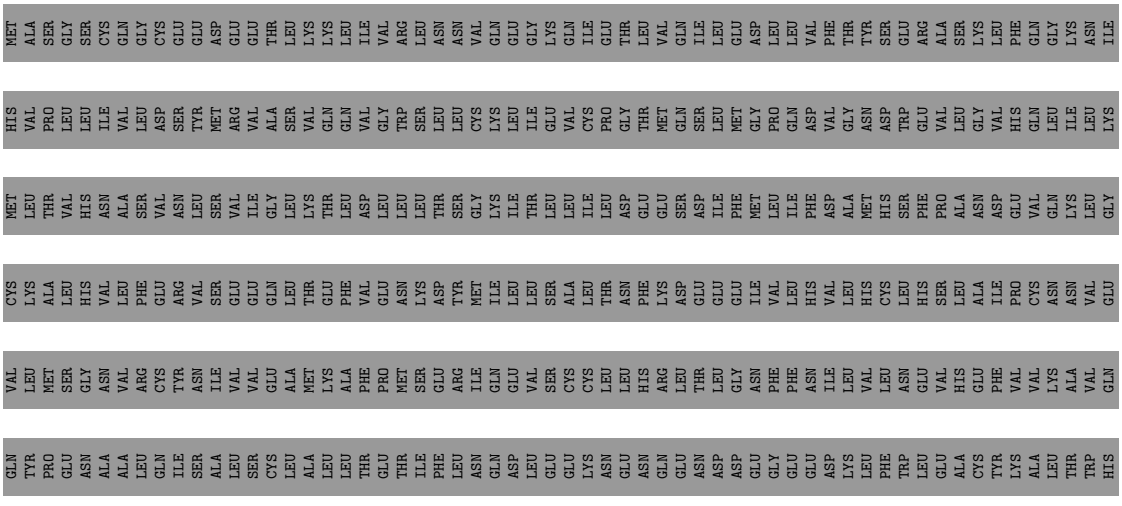
• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

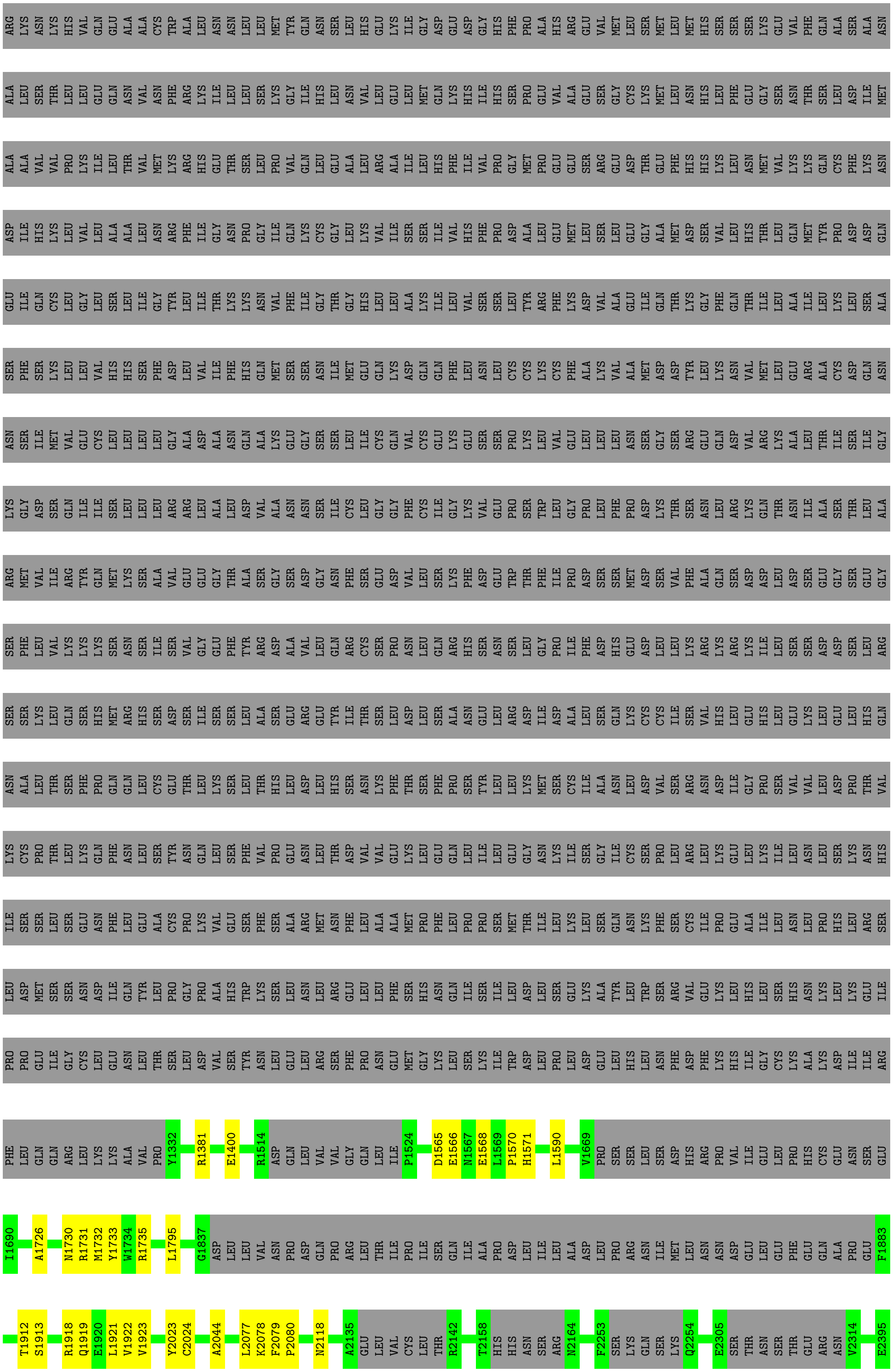
Chain 21-A: 40% 59%

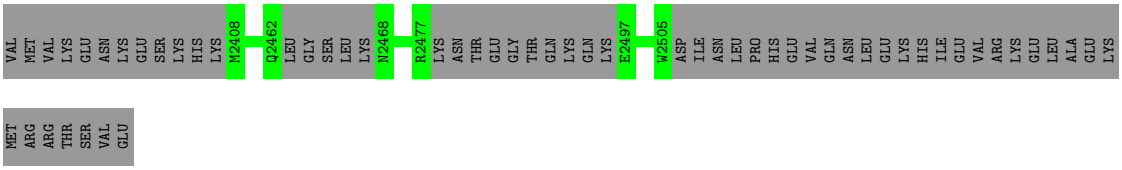


• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

Chain 21-B:

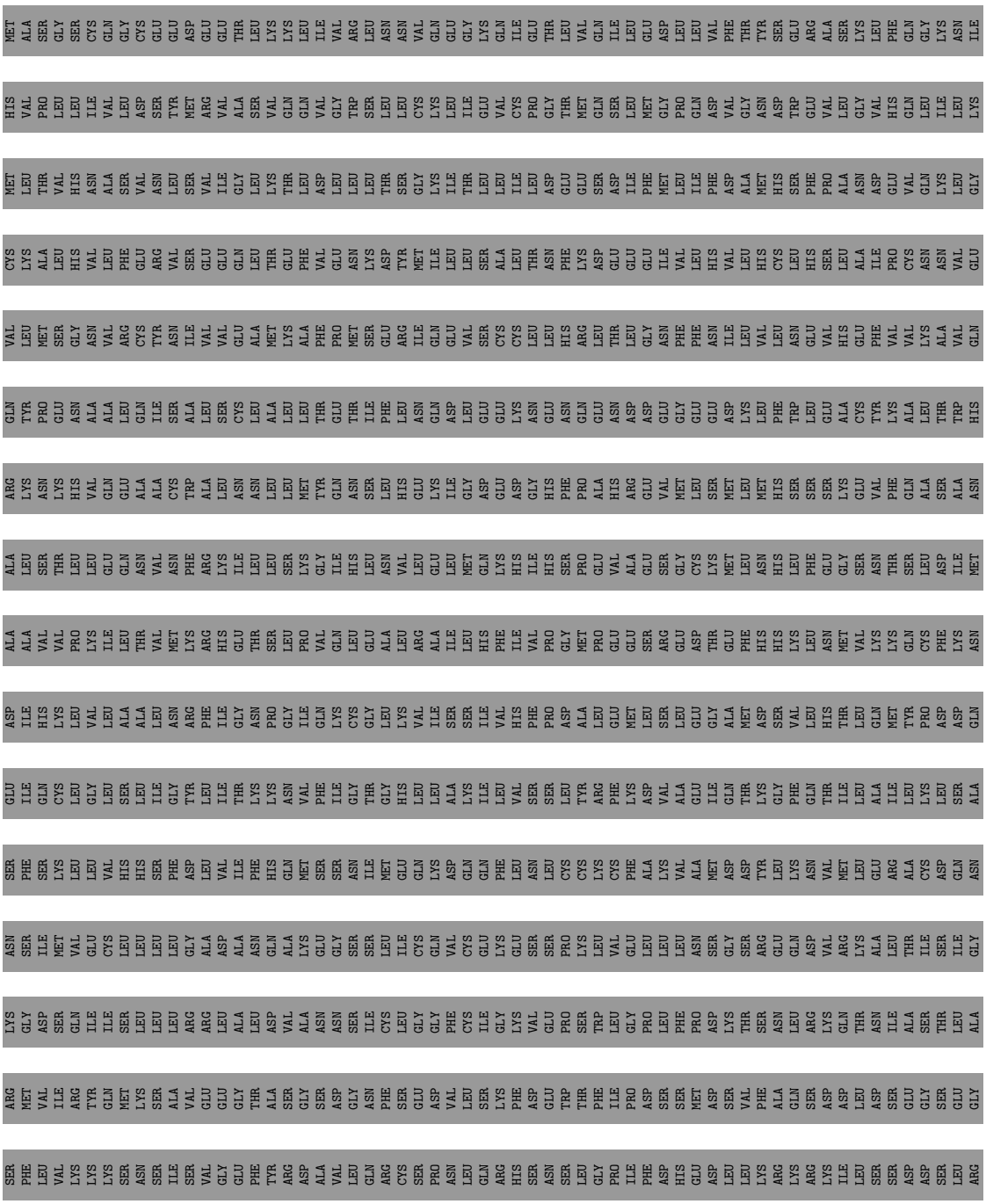


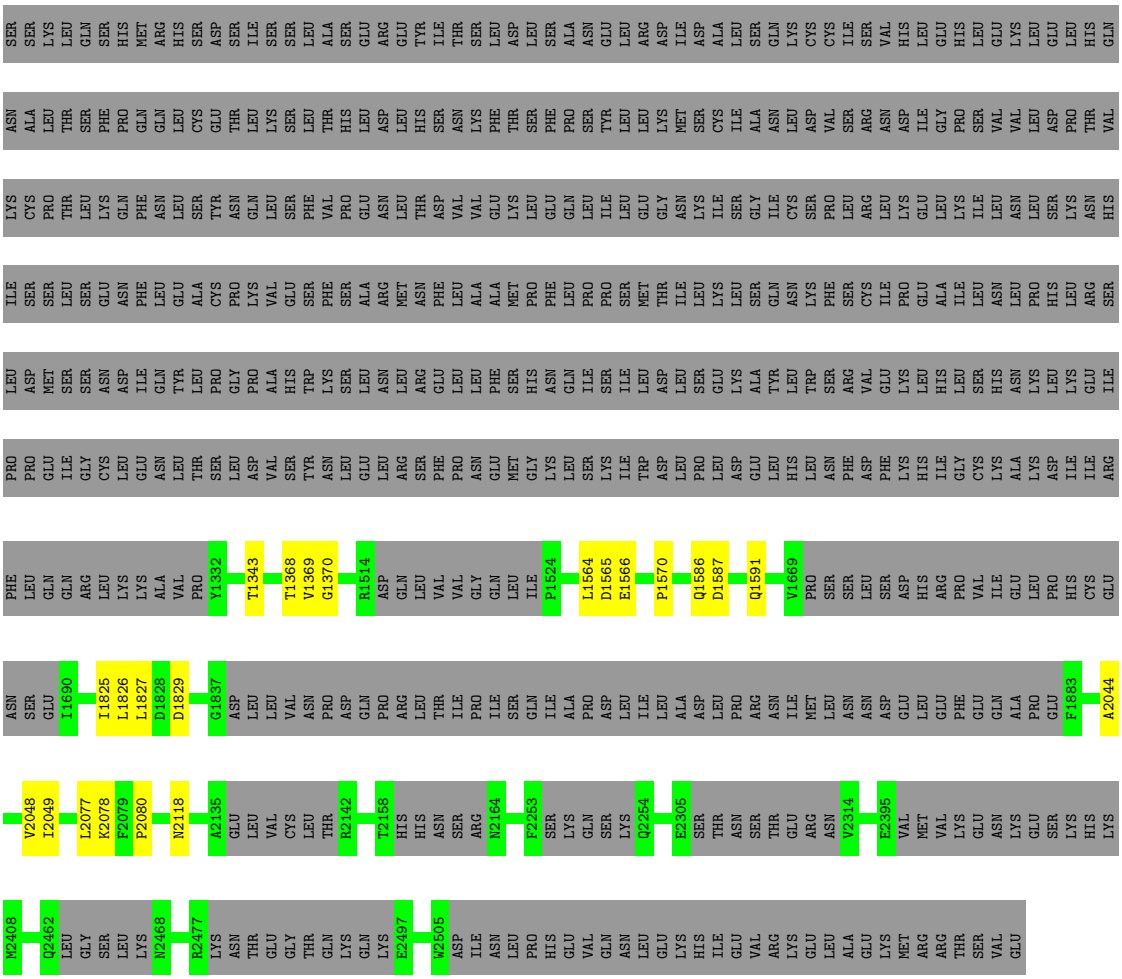

ARG LYS ASN LYS HIS VAL GLN GLU ALA ALA CYS TRP ALA LEU ASN ASN LEU LEU MET TYR GLN ASN SER LEU HIS GLU LYS ILE GLY ASP GLU ASP GLY HIS PHE PRO ALA HIS ARG GLU VAL MET LEU SER MET LEU MET HIS SER SER SER LYS GLU VAL PHE GLN ALA SER ALA ASN
ALA LEU SER THR LEU LEU GLU GLN ASN VAL ASN PHE ARG LYS ILE LEU LEU SER LYS GLY ILE HIS LEU ASN VAL LEU GLU LEU MET GLN LYS HIS ILE HIS SER PRO GLU VAL ALA GLU SER GLY CYS LYS MET LEU ASN HIS LEU PHE GLU GLY SER ASN THR SER LEU ASP ILE MET
ALA ALA VAL VAL PRO LYS ILE LEU THR VAL MET LYS ARG HIS GLU THR SER LEU PRO VAL GLN LEU GLU ALA LEU ARG ALA ILE LEU HIS PHE ILE VAL PRO GLY MET PRO GLU GLU SER ARG GLU ASP THR GLU PHE HIS HIS LYS LEU ASN MET VAL LYS LYS GLN CYS PHE LYS ASN
ASP ILE HIS LYS LEU VAL LEU ALA ALA LEU ASN ARG PHE ILE GLY ASN PRO GLY ILE GLN LYS CYS GLY LEU LYS VAL ILE SER SER ILE VAL HIS PHE PRO ASP ALA LEU GLU MET LEU SER LEU GLU GLY ALA MET ASP SER VAL LEU HIS THR LEU GLN MET TYR PRO ASP ASP GLN
GLU ILE GLN CYS LEU GLY LEU SER LEU ILE GLY TYR LEU ILE THR LYS LYS ASN VAL PHE ILE GLY THR GLY HIS LEU LEU ALA LYS ILE LEU VAL SER SER LEU TYR ARG PHE LYS ASP VAL ALA GLY ILE GLN THR LYS GLY PHE GLN THR ILE LEU ALA ILE LEU LYS LEU SER ALA
SER PHE SER LYS LEU LEU VAL HIS HIS SER PHE ASP LEU VAL ILE PHE HIS GLN MET SER SER ASN ILE MET GLU GLN LYS ASP GLN GLN PHE LEU ASN LEU CYS CYS LYS CYS PHE ALA LYS VAL ALA MET ASP ASP TYR LEU LYS ASN VAL MET LEU GLU ARG ALA CYS ASP GLN ASN
ASN SER ILE MET VAL GLU CYS LEU LEU LEU LEU GLY ALA ASP ALA ASN GLN ALA LYS GLU GLY SER SER LEU ILE CYS GLN VAL CYS GLU LYS GLU SER SER PRO LYS LEU VAL GLU LEU LEU LEU ASN SER GLY SER ARG GLU GLN ASP VAL ARG LYS ALA LEU THR ILE SER ILE GLY
LYS GLY ASP SER GLN ILE ILE SER LEU LEU LEU ARG ARG LEU ALA LEU ASP VAL ALA ASN ASN SER ILE CYS LEU GLY GLY PHE CYS ILE GLY LYS VAL GLU PRO SER TRP LEU GLY PRO LEU PHE PRO ASP LYS THR SER ASN LEU ARG LYS GLN THR ASN ILE ALA SER THR LEU ALA
ARG MET VAL ILE ARG TYR GLN MET LYS SER ALA VAL GLU GLU GLY THR ALA SER GLY SER ASP GLY ASN PHE SER GLU ASP VAL LEU SER LYS PHE ASP GLU TRP THR PHE ILE PRO ASP SER SER MET ASP SER VAL PHE ALA GLN SER ASP ASP LEU ASP SER GLU GLY SER GLU GLY
SER PHE LEU VAL LYS LYS LYS SER ASN SER ILE SER VAL GLY GLU PHE TYR ARG ASP ALA VAL LEU GLN ARG CYS SER PRO ASN LEU GLN ARG HIS SER ASN SER LEU GLY PRO ILE PHE ASP HIS GLU ASP LEU LEU LYS ARG LYS ARG LYS ILE LEU SER SER ASP ASP SER LEU ARG
SER SER LYS LEU GLN SER HIS MET ARG HIS SER ASP SER ILE SER SER LEU ALA SER GLU ARG GLU TYR ILE THR SER LEU ASP LEU SER ALA ASN GLU LEU ARG ASP ILE ASP ALA LEU SER GLN LYS CYS CYS ILE SER VAL HIS LEU GLU HIS LEU GLU LYS LEU GLU LEU HIS GLN
ASN ALA LEU THR SER PHE PRO GLN GLN LEU CYS GLU THR LEU LYS SER LEU THR HIS LEU ASP LEU HIS SER ASN LYS PHE THR SER PHE PRO SER TYR LEU LEU LYS MET SER CYS ILE ALA ASN LEU ASP VAL SER ARG ASN ASP ILE GLY PRO SER VAL VAL LEU ASP PRO THR VAL
LYS CYS PRO THR LEU LYS GLN PHE ASN LEU SER TYR ASN GLN LEU SER PHE VAL PRO GLU ASN LEU THR ASP VAL VAL GLU LYS LEU GLU GLN LEU ILE LEU GLU GLY ASN LYS ILE SER GLY ILE CYS SER PRO LEU ARG LEU LYS GLU LEU LYS ILE LEU ASN LEU SER LYS ASN HIS
ILE SER SER LEU SER GLU ASN PHE LEU GLU ALA CYS PRO LYS VAL GLU SER PHE SER ALA ARG MET ASN PHE LEU ALA ALA MET PRO PHE LEU PRO PRO SER MET THR ILE LEU LYS LEU SER GLN ASN LYS PHE SER CYS ILE PRO GLU ALA ILE LEU ASN LEU PRO HIS LEU ARG SER
LEU ASP MET SER SER ASN ASP ILE GLN TYR LEU PRO GLY PRO ALA HIS TRP LYS SER LEU ASN LEU ARG GLU LEU LEU PHE SER HIS ASN GLN ILE SER ILE LEU ASP LEU SER GLU LYS ALA TYR LEU TRP SER ARG VAL GLU LYS LEU HIS LEU SER HIS ASN LYS LEU LYS GLU ILE
PRO PRO GLU ILE GLY CYS LEU GLU ASN LEU THR SER LEU ASP VAL SER TYR ASN LEU GLU LEU ARG SER PHE PRO ASN GLU MET GLY LYS LEU SER LYS ILE TRP ASP LEU PRO LEU ASP GLU LEU HIS LEU ASN PHE ASP PHE LYS HIS ILE GLY CYS LYS ALA LYS ASP ILE ILE ARG
PHE LEU GLN GLN ARG LEU LYS LYS ALA VAL PRO Y1332 R1381 E1400 R1514 ASP GLN LEU VAL VAL GLY GLN LEU ILE P1524 D1565 E1566 N1567 E1568 L1569 P1570 H1571 L1590 V1669 PRO SER SER LEU SER ASP HIS ARG PRO VAL ILE GLU LEU PRO HIS CYS GLU ASN SER GLU
I1690 A1726 N1730 R1731 M1732 Y1733 W1734 R1735 L1795 G1837 ASP LEU LEU VAL ASN PRO ASP GLN PRO ARG LEU THR ILE PRO ILE SER GLN ILE ALA PRO ASP LEU ILE LEU ALA ASP LEU PRO ARG ASN ILE MET LEU ASN ASN ASP GLU LEU GLU PHE GLU GLN ALA PRO GLU F1883
T1912 S1913 R1918 Q1919 E1920 L1921 V1922 V1923 Y2023 C2024 A2044 L2077 K2078 F2079 P2080 N2118 A2135 GLU LEU VAL CYS LEU THR R2142 T2158 HIS HIS ASN SER ARG N2164 F2253 SER LYS GLN SER LYS Q2254 E2305 SER THR ASN SER THR GLU ARG ASN V2314 E2395



• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

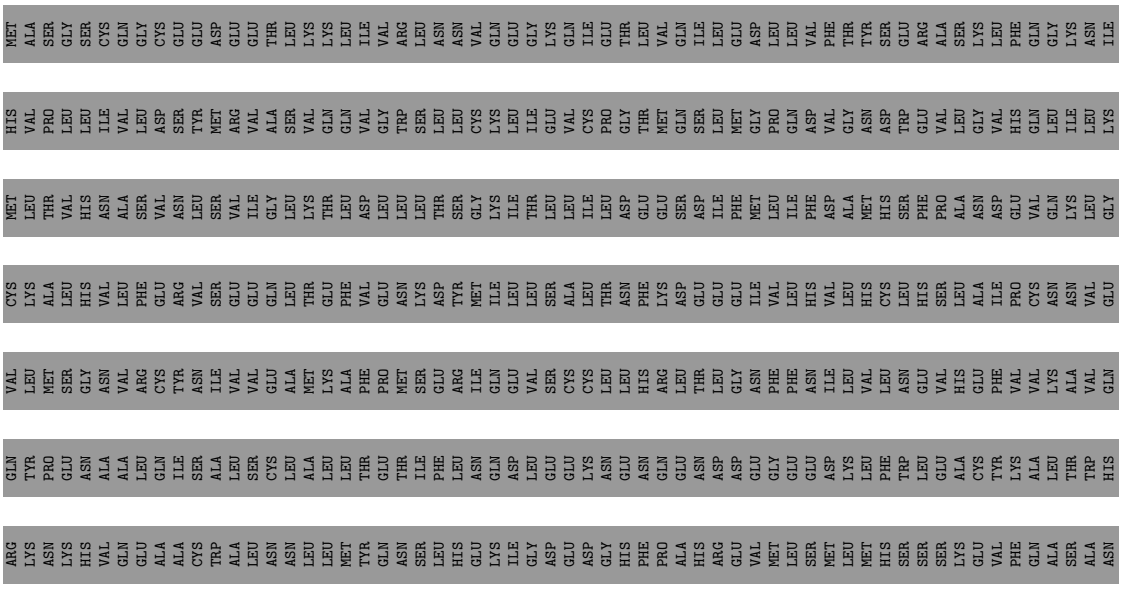
Chain 22-A:





• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

Chain 22-B:



ALA LEU SER THR LEU LEU GLU GLN ASN VAL ASN PHE ARG LYS ILE LEU LEU SER LYS GLY ILE HIS LEU ASN VAL LEU GLU LEU MET GLN LYS HIS ILE HIS SER PRO GLU VAL ALA GLU SER GLY CYS LYS MET LEU ASN HIS LEU PHE GLU GLY SER ASN THR SER LEU ASP ILE MET

ALA ALA VAL VAL PRO LYS ILE LEU THR VAL MET LYS ARG HIS GLU THR SER LEU PRO VAL GLN LEU GLU ALA LEU ARG ALA ILE LEU HIS PHE ILE VAL PRO GLY MET PRO GLU GLU SER ARG GLU ASP THR GLU PHE HIS HIS LYS LEU ASN MET VAL LYS LYS GLN CYS PHE LYS ASN

ASP ILE HIS LYS LEU VAL LEU ALA ALA LEU ASN ARG PHE ILE GLY ASN PRO GLY ILE GLN LYS CYS GLY LEU LYS VAL ILE SER SER ILE VAL HIS PHE PRO ASP ALA LEU GLU MET LEU SER LEU GLU GLY ALA MET ASP SER VAL LEU HIS THR LEU GLN MET TYR PRO ASP ASP GLN

GLU ILE GLN CYS LEU GLY LEU SER LEU ILE GLY TYR LEU ILE THR LYS LYS ASN VAL PHE ILE GLY THR GLY HIS LEU LEU ALA LYS ILE LEU VAL SER SER LEU TYR ARG PHE LYS ASP VAL ALA GLU ILE GLN THR LYS GLY PHE GLN THR ILE LEU ALA ILE LEU LYS LEU SER ALA

SER PHE SER LYS LEU LEU VAL HIS HIS SER PHE ASP LEU VAL ILE PHE HIS GLN MET SER SER ASN ILE MET GLU GLN LYS ASP GLN GLN PHE LEU ASN LEU CYS CYS LYS CYS PHE ALA LYS VAL ALA MET ASP ASP TYR LEU LYS ASN VAL MET LEU GLU ARG ALA CYS SER ASP GLN ASN

ASN SER ILE MET VAL GLU CYS LEU LEU LEU LEU GLY ALA ASP ALA ASN GLN ALA LYS GLU GLY SER SER LEU ILE CYS GLN VAL CYS GLU LYS GLU SER SER PRO LYS LEU VAL GLU LEU LEU LEU ASN SER GLY SER ARG GLU GLN ASP VAL ARG LYS ALA LEU THR ILE SER ILE GLY

LYS GLY ASP SER GLN ILE ILE SER LEU LEU LEU ARG ARG LEU ALA LEU ASP VAL ALA ASN ASN SER ILE CYS LEU GLY GLY PHE CYS ILE GLY LYS VAL GLU PRO SER TRP LEU GLY PRO LEU PHE PRO ASP LYS THR SER ASN LEU ARG LYS GLN THR ASN ILE ALA SER THR LEU ALA

ARG MET VAL ILE ARG TYR GLN MET LYS SER ALA VAL GLU GLU GLY THR ALA SER GLY SER ASP GLY ASN PHE SER GLU ASP VAL LEU SER LYS PHE ASP GLU TRP THR PHE ILE PRO ASP SER SER MET ASP SER VAL PHE ALA GLN SER ASP ASP LEU ASP SER GLU GLY SER GLU GLY

SER PHE LEU VAL LYS LYS LYS SER ASN SER ILE SER VAL GLY GLU PHE TYR ARG ASP ALA VAL LEU GLN ARG CYS SER PRO ASN LEU GLN ARG HIS SER ASN SER LEU GLY PRO ILE PHE ASP HIS GLU ASP LEU LEU LYS ARG LYS ARG LYS ILE LEU SER SER ASP ASP SER LEU ARG

SER SER LYS LEU GLN SER HIS MET ARG HIS SER ASP SER ILE SER SER LEU ALA SER GLU ARG GLU TYR ILE THR SER LEU ASP LEU SER ALA ASN GLU LEU ARG ASP ILE ASP ALA LEU SER GLN LYS CYS CYS ILE SER VAL HIS LEU GLU HIS LEU GLU LYS LEU GLU LEU HIS GLN

ASN ALA LEU THR SER PHE PRO GLN GLN LEU CYS GLU THR LEU LYS SER LEU THR HIS LEU ASP LEU HIS SER ASN LYS PHE THR SER PHE PRO SER TYR LEU LEU LYS MET SER CYS ILE ALA ASN LEU ASP VAL SER ARG ASN ASP ILE GLY PRO SER VAL VAL LEU ASP PRO THR VAL

LYS CYS PRO THR LEU LYS GLN PHE ASN LEU SER TYR ASN GLN LEU SER PHE VAL PRO GLU ASN LEU THR ASP VAL VAL GLU LYS LEU GLU GLN LEU ILE LEU GLU GLY ASN LYS ILE SER GLY ILE CYS SER PRO LEU ARG LEU LYS GLU LEU LYS ILE LEU ASN LEU SER LYS ASN HIS

ILE SER SER LEU SER GLU ASN PHE LEU GLU ALA CYS PRO LYS VAL GLU SER PHE SER ALA ARG MET ASN PHE LEU ALA ALA MET PRO PHE LEU PRO PRO SER MET THR ILE LEU LYS LEU SER GLN ASN LYS PHE SER CYS ILE PRO GLU ALA ILE LEU ASN LEU PRO HIS LEU ARG SER

LEU ASP MET SER SER ASN ASP ILE GLN TYR LEU PRO GLY PRO ALA HIS TRP LYS SER LEU ASN LEU ARG GLU LEU LEU PHE SER HIS ASN GLN ILE SER ILE LEU ASP LEU SER GLU LYS ALA TYR LEU TRP SER ARG VAL GLU LYS LEU HIS LEU SER HIS ASN LYS LEU LYS GLU ILE

PRO PRO GLU ILE GLY CYS LEU GLU ASN LEU THR SER LEU ASP VAL SER TYR ASN LEU GLU LEU ARG SER PHE PRO ASN GLU MET GLY LYS LEU SER LYS ILE TRP ASP LEU PRO LEU ASP GLU LEU HIS LEU ASN PHE ASP PHE LYS HIS ILE GLY CYS LYS ALA LYS ASP ILE ILE ARG

PHE LEU GLN GLN ARG LEU LYS LYS ALA VAL PRO Y1332 T1343 T1368 V1369 G1370 R1514 ASP GLN LEU VAL VAL GLY GLN LEU ILE P1524 L1564 D1565 E1566 P1570 Q1586 D1587 Q1591 V1669 PRO SER SER LEU SER ASP HIS ARG PRO VAL ILE GLU LEU PRO HIS CYS GLU

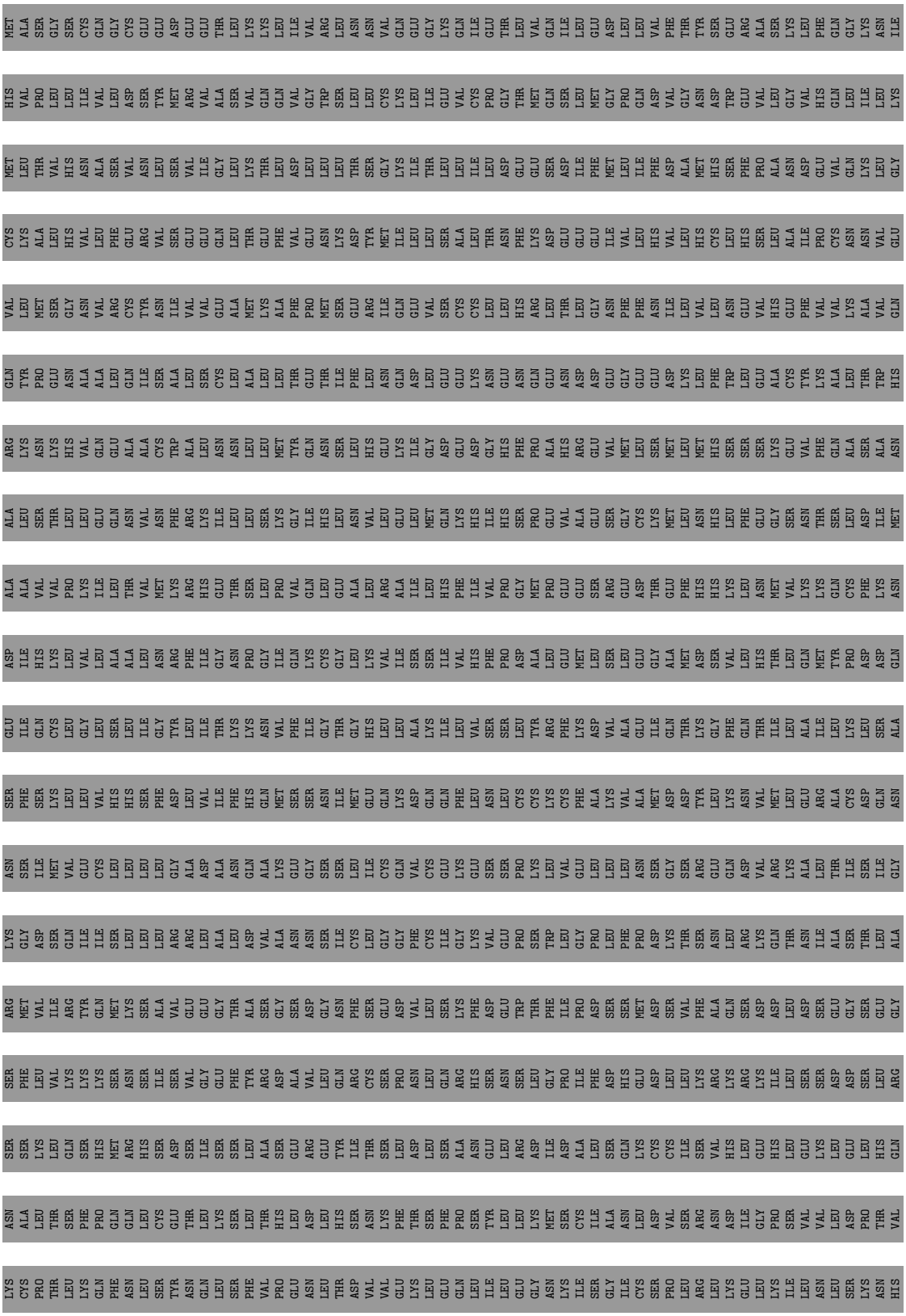
ASN SER GLU I1690 I1825 L1826 L1827 D1828 D1829 G1837 ASP LEU LEU VAL ASN PRO ASP GLN PRO ARG LEU THR ILE PRO ILE SER GLN ILE ALA PRO ASP LEU ILE LEU ALA ASP LEU PRO ARG ASN ILE MET LEU ASN ASN ASP GLU LEU GLU PHE GLU GLN ALA PRO GLU F1883 A2044

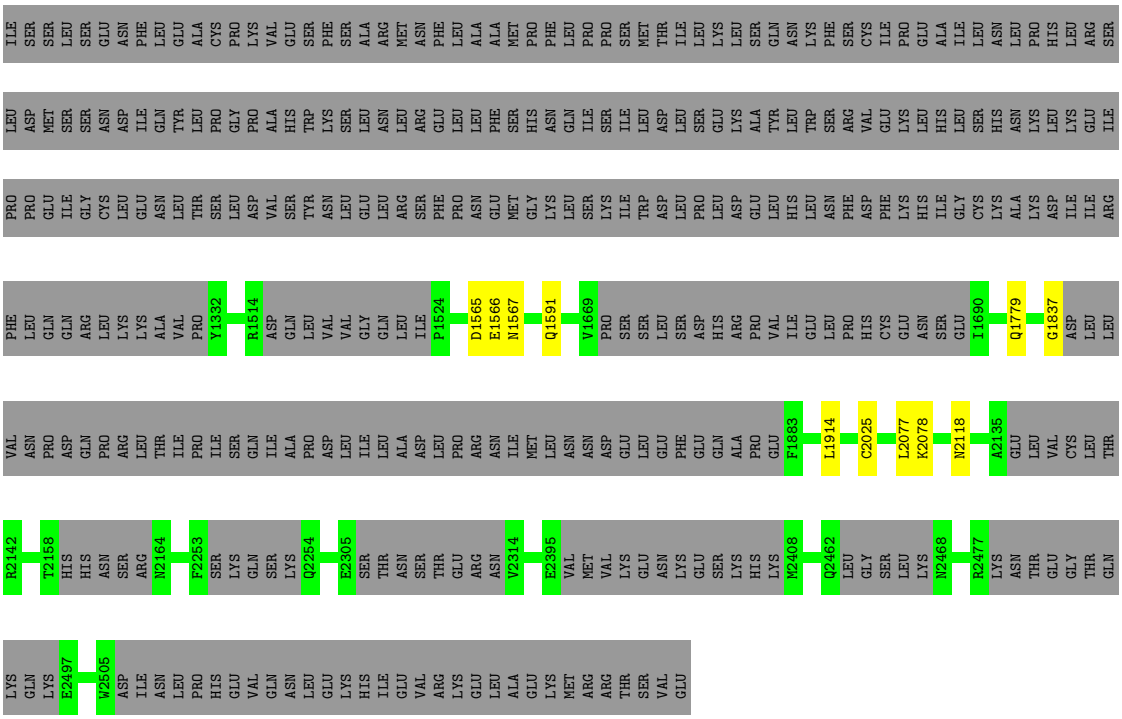
V2048 I2049 L2077 K2078 F2079 P2080 N2118 A2135 GLU LEU VAL CYS LEU THR R2142 T2158 HIS HIS ASN SER ARG N2164 F2253 SER LYS GLN SER LYS Q2254 E2305 SER THR ASN SER THR GLU ARG ASN V2314 E2395 VAL MET VAL LYS GLU ASN LYS GLU SER LYS HIS LYS

M2408 Q2462 LEU GLY SER LEU LYS N2468 R2477 LYS ASN THR GLU GLY THR GLN LYS GLN LYS E2497 W2505 ASP ILE ASN LEU PRO HIS GLU VAL GLN ASN LEU GLU LYS HIS ILE GLU VAL ARG LYS GLU LEU ALA GLU LYS MET ARG ARG THR SER VAL GLU

• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

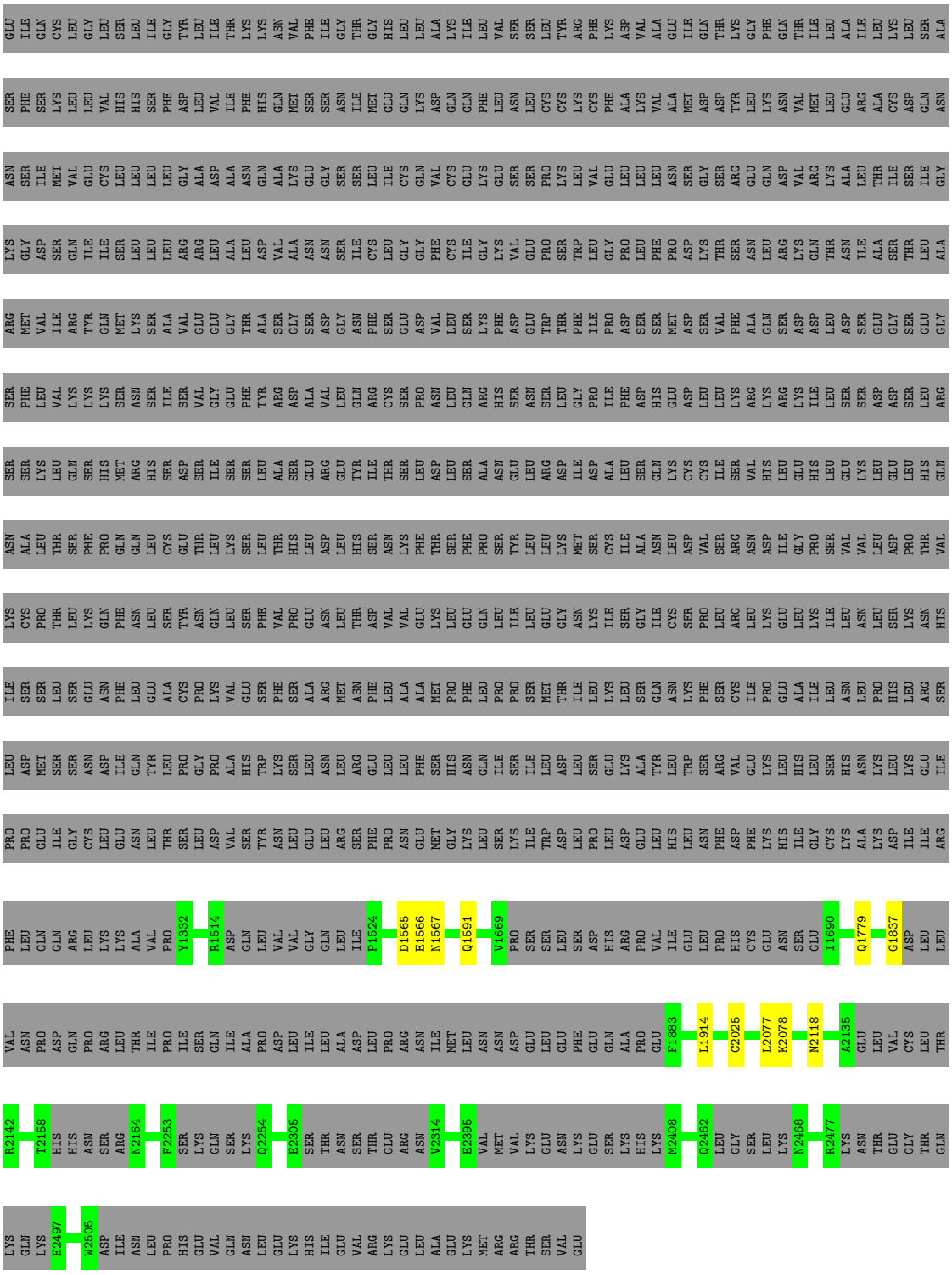
Chain 23-A: 41% 59%





• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

Chain 23-B:



• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

Chain 24-A:

HIS VAL PRO LEU LEU ILE VAL LEU ASP SER TYR MET ARG VAL ALA SER VAL GLN GLN VAL GLY TRP SER LEU LEU CYS LYS LEU ILE GLU VAL CYS PRO GLY THR MET GLN SER LEU MET GLY PRO GLN ASP VAL GLY ASN ASP TRP GLU VAL LEU GLY VAL HIS GLN LEU ILE LEU LYS

MET LEU THR VAL HIS ASN ALA SER VAL ASN LEU SER VAL ILE GLY LEU LYS THR LEU ASP LEU LEU THR SER GLY LYS ILE THR LEU LEU ILE LEU ASP GLU GLU SER ASP ILE PHE MET LEU ILE PHE ASP ALA MET HIS SER PHE PRO ALA ASN ASP GLU VAL GLN LYS LEU GLY

CYS LYS ALA LEU HIS VAL LEU PHE GLU ARG VAL SER GLU GLU GLN LEU THR GLU PHE VAL GLU ASN LYS ASP TYR MET ILE LEU LEU SER ALA LEU THR ASN PHE LYS ASP GLU GLU ILE VAL LEU HIS VAL LEU HIS CYS LEU HIS SER LEU ALA ILE PRO CYS ASN ASN VAL GLU

VAL LEU MET SER GLY ASN VAL ARG CYS TYR ASN ILE VAL VAL GLU ALA MET LYS ALA PHE PRO MET SER GLU ARG ILE GLN GLU VAL SER CYS CYS LEU LEU HIS ARG LEU THR LEU GLY ASN PHE PHE ASN ILE LEU VAL LEU ASN GLU VAL HIS GLU PHE VAL VAL LYS ALA VAL GLN

GLN TYR PRO GLU ASN ALA ALA LEU GLN ILE SER ALA LEU SER CYS LEU ALA LEU LEU THR GLU THR ILE PHE LEU ASN GLN ASP LEU GLU GLU LYS ASN GLU ASN GLN GLU ASN ASP ASP GLU GLY GLU GLU ASP LYS LEU PHE TRP LEU GLU ALA CYS TYR LYS ALA LEU THR TRP HIS

ARG LYS ASN LYS HIS VAL GLN GLU ALA ALA CYS TRP ALA LEU ASN ASN LEU LEU MET TYR GLN ASN SER LEU HIS GLU LYS ILE GLY ASP GLU ASP GLY HIS PHE PRO ALA HIS ARG GLU VAL MET LEU SER MET LEU MET HIS SER SER SER LYS GLU VAL PHE GLN ALA SER ALA ASN

ALA LEU SER THR LEU LEU GLU GLN ASN VAL ASN PHE ARG LYS ILE LEU LEU SER LYS GLY ILE HIS LEU ASN VAL LEU GLU LEU MET GLN LYS HIS ILE HIS SER PRO GLU VAL ALA GLU SER GLY CYS LYS MET LEU ASN HIS LEU PHE GLU GLY SER ASN THR SER LEU ASP ILE MET

ALA ALA VAL VAL PRO LYS ILE LEU THR VAL MET LYS ARG HIS GLU THR SER LEU PRO VAL GLN LEU GLU ALA LEU ARG ALA ILE LEU HIS PHE ILE VAL PRO GLY MET PRO GLU GLU SER ARG GLU ASP THR GLU PHE HIS HIS LYS LEU ASN MET VAL LYS LYS GLN CYS PHE LYS ASN

ASP ILE HIS LYS LEU VAL LEU ALA ALA LEU ASN ARG PHE ILE GLY ASN PRO GLY ILE GLN LYS CYS GLY LEU LYS VAL ILE SER SER ILE VAL HIS PHE PRO ASP ALA LEU GLU MET LEU SER LEU GLU GLY ALA MET ASP SER VAL LEU HIS THR LEU GLN MET TYR PRO ASP ASP GLN

GLU ILE GLN CYS LEU GLY LEU SER LEU ILE GLY TYR LEU ILE THR LYS LYS ASN VAL PHE ILE GLY THR GLY HIS LEU LEU ALA LYS ILE LEU VAL SER SER LEU TYR ARG PHE LYS ASP VAL ALA GLU ILE GLN THR LYS GLY PHE GLN THR ILE LEU ALA ILE LEU LYS LEU SER ALA

SER PHE SER LYS LEU LEU VAL HIS HIS SER PHE ASP LEU VAL ILE PHE HIS GLN MET SER SER ASN ILE MET GLU GLN LYS ASP GLN GLN PHE LEU ASN LEU CYS CYS LYS CYS PHE ALA LYS VAL ALA MET ASP ASP TYR LEU LYS ASN VAL MET LEU GLU ARG ALA CYS ASP GLN ASN

ASN SER ILE MET VAL GLU CYS LEU LEU LEU LEU GLY ALA ASP ALA ASN GLN ALA LYS GLU GLY SER SER LEU ILE CYS GLN VAL CYS GLU LYS GLU SER SER PRO LYS LEU VAL GLU LEU LEU LEU ASN SER GLY SER ARG GLU GLN ASP VAL ARG LYS ALA LEU THR ILE SER ILE GLY

LYS GLY ASP SER GLN ILE ILE SER LEU LEU LEU ARG ARG LEU ALA LEU ASP VAL ALA ASN ASN SER ILE CYS LEU GLY GLY PHE CYS ILE GLY LYS VAL GLU PRO SER TRP LEU GLY PRO LEU PHE PRO ASP LYS THR SER ASN LEU ARG LYS GLN THR ASN ILE ALA SER THR LEU ALA

ARG MET VAL ILE ARG TYR GLN MET LYS SER ALA VAL GLU GLU GLY THR ALA SER GLY SER ASP GLY ASN PHE SER GLU ASP VAL LEU SER LYS PHE ASP GLU TRP THR PHE ILE PRO ASP SER SER MET ASP SER VAL PHE ALA GLN SER ASP ASP LEU ASP SER GLU GLY SER GLU GLY

SER PHE LEU VAL LYS LYS LYS SER ASN SER ILE SER VAL GLY GLU PHE TYR ARG ASP ALA VAL LEU GLN ARG CYS SER PRO ASN LEU GLN ARG HIS SER ASN SER LEU GLY PRO ILE PHE ASP HIS GLU ASP LEU LEU LYS ARG LYS ARG LYS ILE LEU SER SER ASP ASP SER LEU ARG

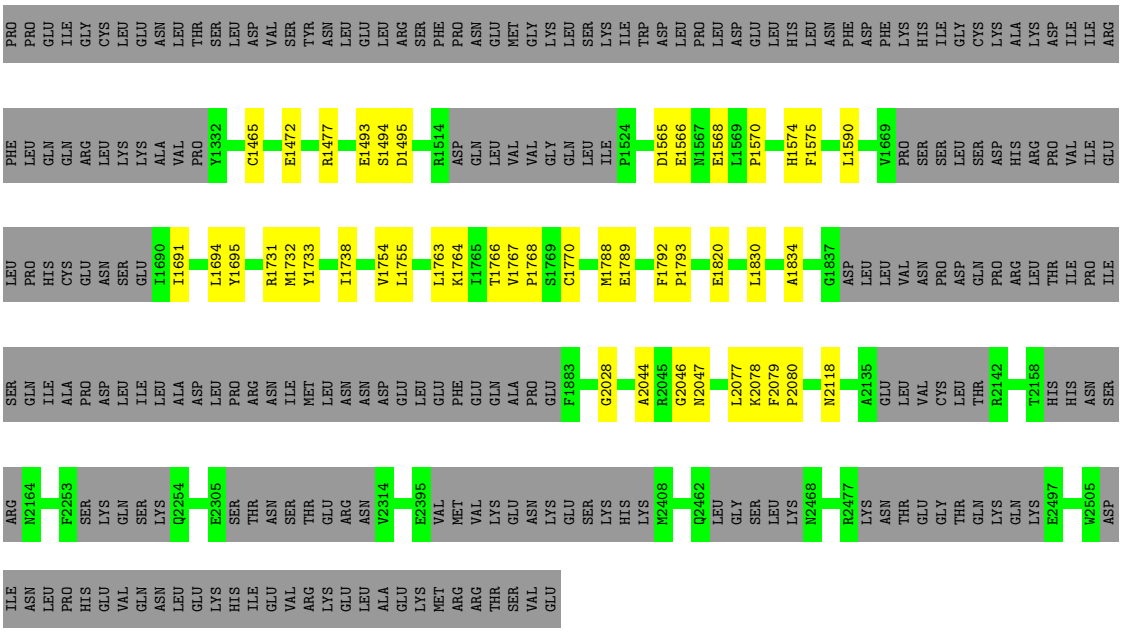
SER SER LYS LEU GLN SER HIS MET ARG HIS SER ASP SER ILE SER SER LEU ALA SER GLU ARG GLU TYR ILE THR SER LEU ASP LEU SER ALA ASN GLU LEU ARG ASP ILE ASP ALA LEU SER GLN LYS CYS CYS ILE SER VAL HIS LEU GLU HIS LEU GLU LYS LEU GLU LEU HIS GLN

ASN ALA LEU THR SER PHE PRO GLN GLN LEU CYS GLU THR LEU LYS SER LEU THR HIS LEU ASP LEU HIS SER ASN LYS PHE THR SER PHE PRO SER TYR LEU LEU LYS MET SER CYS ILE ALA ASN LEU ASP VAL SER ARG ASN ASP ILE GLY PRO SER VAL VAL LEU ASP PRO THR VAL

LYS CYS PRO THR LEU LYS GLN PHE ASN LEU SER TYR ASN GLN LEU SER PHE VAL PRO GLU ASN LEU THR ASP VAL VAL GLU LYS LEU GLU GLN LEU ILE LEU GLU GLY ASN LYS ILE SER GLY ILE CYS SER PRO LEU ARG LEU LYS GLU LEU LYS ILE LEU ASN LEU SER LYS ASN HIS

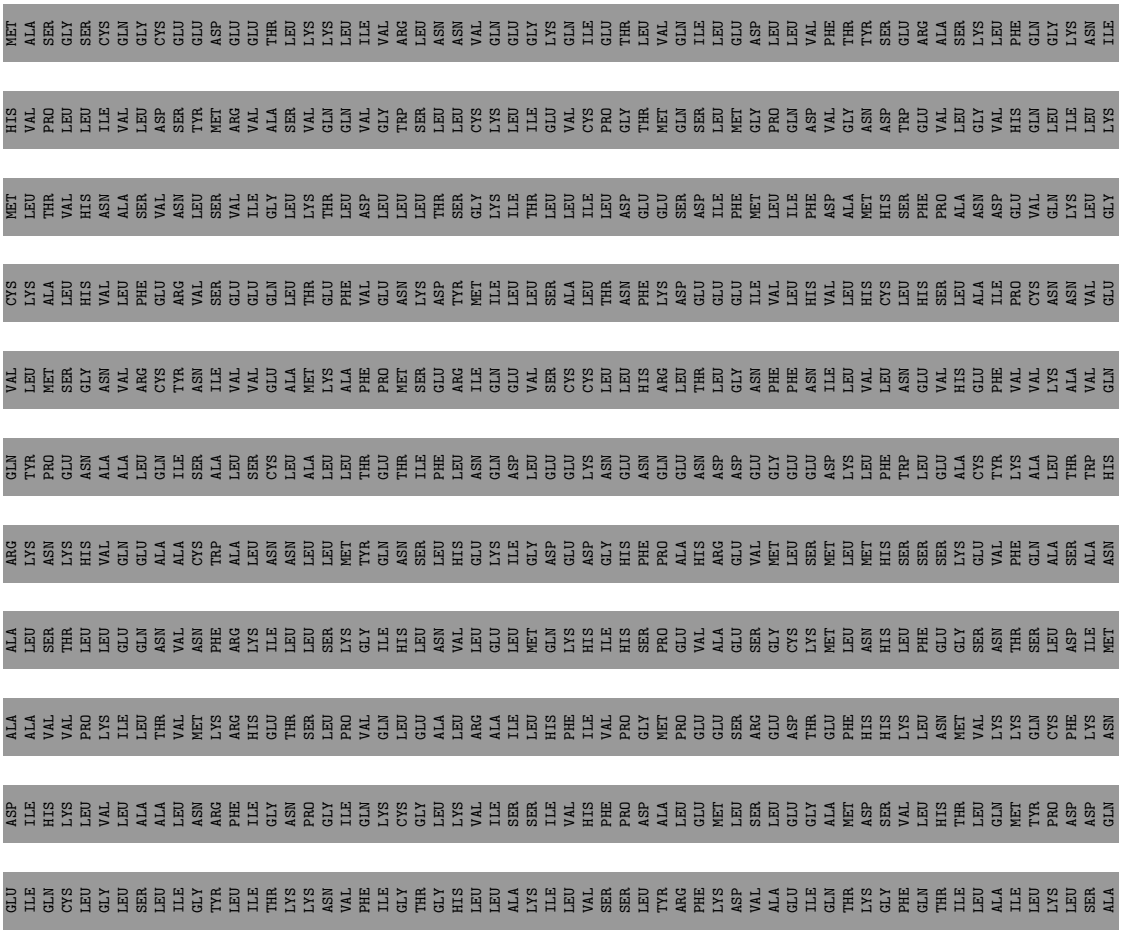
ILE SER SER LEU SER GLU ASN PHE LEU GLU ALA CYS PRO LYS VAL GLU SER PHE SER ALA ARG MET ASN PHE LEU ALA ALA MET PRO PHE LEU PRO PRO SER MET THR ILE LEU LYS LEU SER GLN ASN LYS PHE SER CYS ILE PRO GLU ALA ILE LEU ASN LEU PRO HIS LEU ARG SER

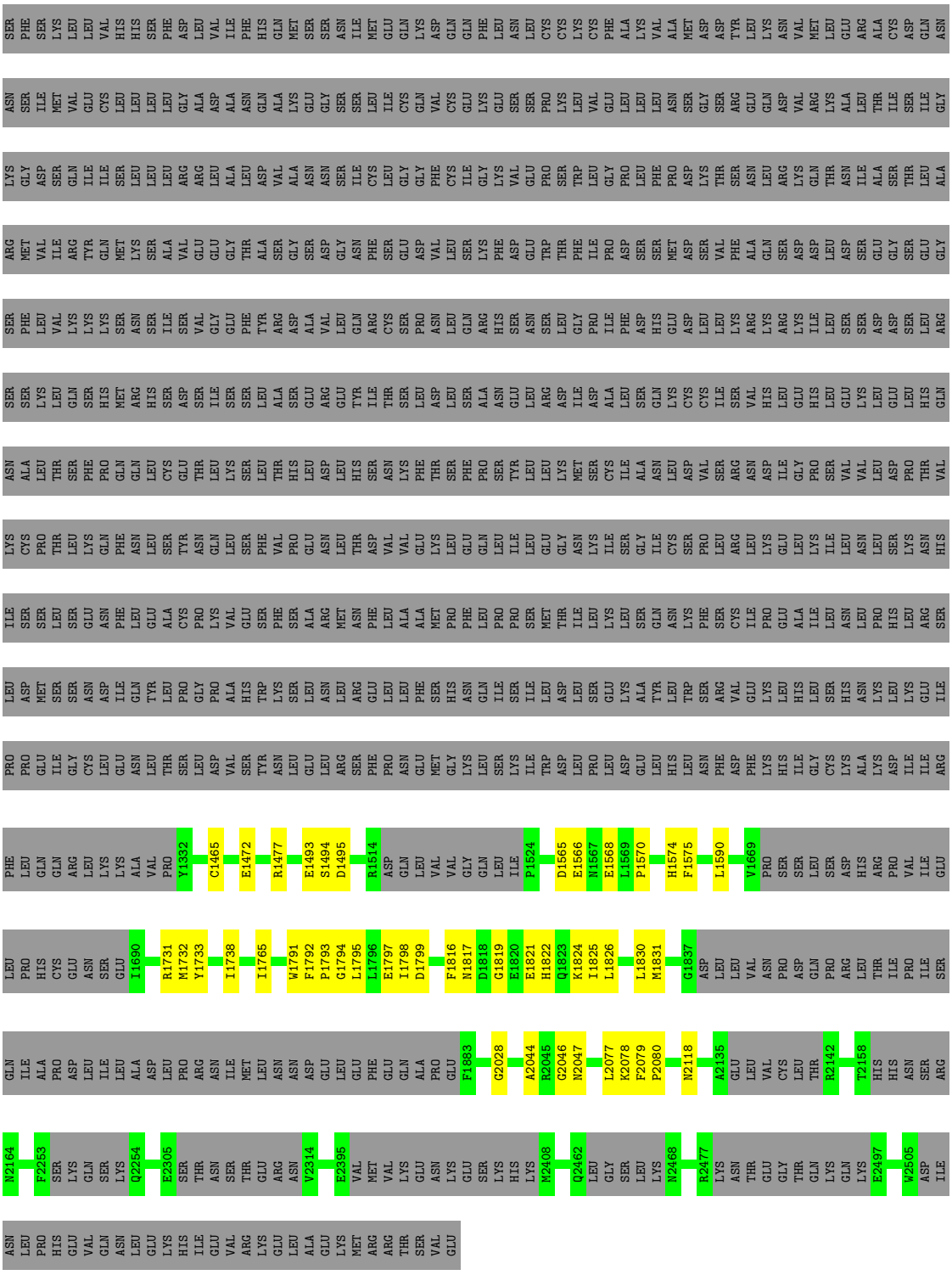
LEU ASP MET SER SER ASN ASP ILE GLN TYR LEU PRO GLY PRO ALA HIS TRP LYS SER LEU ASN LEU ARG GLU LEU LEU PHE SER HIS ASN GLN ILE SER ILE LEU ASP LEU SER GLU LYS ALA TYR LEU TRP SER ARG VAL GLU LYS LEU HIS LEU SER HIS ASN LYS LEU LYS GLU ILE



• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

Chain 24-B: 





• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

Chain 25-A:

HIS VAL PRO LEU LEU ILE VAL LEU ASP SER TYR MET ARG VAL ALA SER VAL GLN GLN VAL GLY TRP SER LEU LEU CYS LYS LEU ILE GLU VAL CYS PRO GLY THR MET GLN SER LEU MET GLY PRO GLN ASP VAL GLY ASN ASP TRP GLU VAL LEU GLY VAL HIS GLN LEU ILE LEU LYS

MET LEU THR VAL HIS ASN ALA SER VAL ASN LEU SER VAL ILE GLY LEU LYS THR LEU ASP LEU LEU THR SER GLY LYS ILE THR LEU LEU ILE LEU ASP GLU GLU SER ASP ILE PHE MET LEU ILE PHE ASP ALA MET HIS SER PHE PRO ALA ASN ASP GLU VAL GLN LYS LEU GLY

CYS LYS ALA LEU HIS VAL LEU PHE GLU ARG VAL SER GLU GLU GLN LEU THR GLU PHE VAL GLU ASN LYS ASP TYR MET ILE LEU LEU SER ALA LEU THR ASN PHE LYS ASP GLU GLU ILE VAL LEU HIS VAL LEU HIS CYS LEU HIS SER LEU ALA ILE PRO CYS ASN ASN VAL GLU

VAL LEU MET SER GLY ASN VAL ARG CYS TYR ASN ILE VAL VAL GLU ALA MET LYS ALA PHE PRO MET SER GLU ARG ILE GLN GLU VAL SER CYS CYS LEU LEU HIS ARG LEU THR LEU GLY ASN PHE PHE ASN ILE LEU VAL LEU ASN GLU VAL HIS GLU PHE VAL VAL LYS ALA VAL GLN

GLN TYR PRO GLU ASN ALA ALA LEU GLN ILE SER ALA LEU SER CYS LEU ALA LEU LEU THR GLU THR ILE PHE LEU ASN GLN ASP LEU GLU GLU LYS ASN GLU ASN GLN GLU ASN ASP ASP GLU GLY GLU GLU ASP LYS LEU PHE TRP LEU GLU ALA CYS TYR LYS ALA LEU THR TRP HIS

ARG LYS ASN LYS HIS VAL GLN GLU ALA ALA CYS TRP ALA LEU ASN ASN LEU LEU MET TYR GLN ASN SER LEU HIS GLU LYS ILE GLY ASP GLU ASP GLY HIS PHE PRO ALA HIS ARG GLU VAL MET LEU SER MET LEU MET HIS SER SER SER LYS GLU VAL PHE GLN ALA SER ALA ASN

ALA LEU SER THR LEU LEU GLU GLN ASN VAL ASN PHE ARG LYS ILE LEU LEU SER LYS GLY ILE HIS LEU ASN VAL LEU GLU LEU MET GLN LYS HIS ILE HIS SER PRO GLU VAL ALA GLU SER GLY CYS LYS MET LEU ASN HIS LEU PHE GLU GLY SER ASN THR SER LEU ASP ILE MET

ALA ALA VAL VAL PRO LYS ILE LEU THR VAL MET LYS ARG HIS GLU THR SER LEU PRO VAL GLN LEU GLU ALA LEU ARG ALA ILE LEU HIS PHE ILE VAL PRO GLY MET PRO GLU GLU SER ARG GLU ASP THR GLU PHE HIS HIS LYS LEU ASN MET VAL LYS LYS GLN CYS PHE LYS ASN

ASP ILE HIS LYS LEU VAL LEU ALA ALA LEU ASN ARG PHE ILE GLY ASN PRO GLY ILE GLN LYS CYS GLY LEU LYS VAL ILE SER SER ILE VAL HIS PHE PRO ASP ALA LEU GLU MET LEU SER LEU GLU GLY ALA MET ASP SER VAL LEU HIS THR LEU GLN MET TYR PRO ASP ASP GLN

GLU ILE GLN CYS LEU GLY LEU SER LEU ILE GLY TYR LEU ILE THR LYS LYS ASN VAL PHE ILE GLY THR GLY HIS LEU LEU ALA LYS ILE LEU VAL SER SER LEU TYR ARG PHE LYS ASP VAL ALA GLU ILE GLN THR LYS GLY PHE GLN THR ILE LEU ALA ILE LEU LYS LEU SER ALA

SER PHE SER LYS LEU LEU VAL HIS HIS SER PHE ASP LEU VAL ILE PHE HIS GLN MET SER SER ASN ILE MET GLU GLN LYS ASP GLN GLN PHE LEU ASN LEU CYS CYS LYS CYS PHE ALA LYS VAL ALA MET ASP ASP TYR LEU LYS ASN VAL MET LEU GLU ARG ALA CYS ASP GLN ASN

ASN SER ILE MET VAL GLU CYS LEU LEU LEU LEU GLY ALA ASP ALA ASN GLN ALA LYS GLU GLY SER SER LEU ILE CYS GLN VAL CYS GLU LYS GLU SER SER PRO LYS LEU VAL GLU LEU LEU LEU ASN SER GLY SER ARG GLU GLN ASP VAL ARG LYS ALA LEU THR ILE SER ILE GLY

LYS GLY ASP SER GLN ILE ILE SER LEU LEU LEU ARG ARG LEU ALA LEU ASP VAL ALA ASN ASN SER ILE CYS LEU GLY GLY PHE CYS ILE GLY LYS VAL GLU PRO SER TRP LEU GLY PRO LEU PHE PRO ASP LYS THR SER ASN LEU ARG LYS GLN THR ASN ILE ALA SER THR LEU ALA

ARG MET VAL ILE ARG TYR GLN MET LYS SER ALA VAL GLU GLU GLY THR ALA SER GLY SER ASP GLY ASN PHE SER GLU ASP VAL LEU SER LYS PHE ASP GLU TRP THR PHE ILE PRO ASP SER SER MET ASP SER VAL PHE ALA GLN SER ASP ASP LEU ASP SER GLU GLY SER GLU GLY

SER PHE LEU VAL LYS LYS LYS SER ASN SER ILE SER VAL GLY GLU PHE TYR ARG ASP ALA VAL LEU GLN ARG CYS SER PRO ASN LEU GLN ARG HIS SER ASN SER LEU GLY PRO ILE PHE ASP HIS GLU ASP LEU LEU LYS ARG LYS ARG LYS ILE LEU SER SER ASP ASP SER LEU ARG

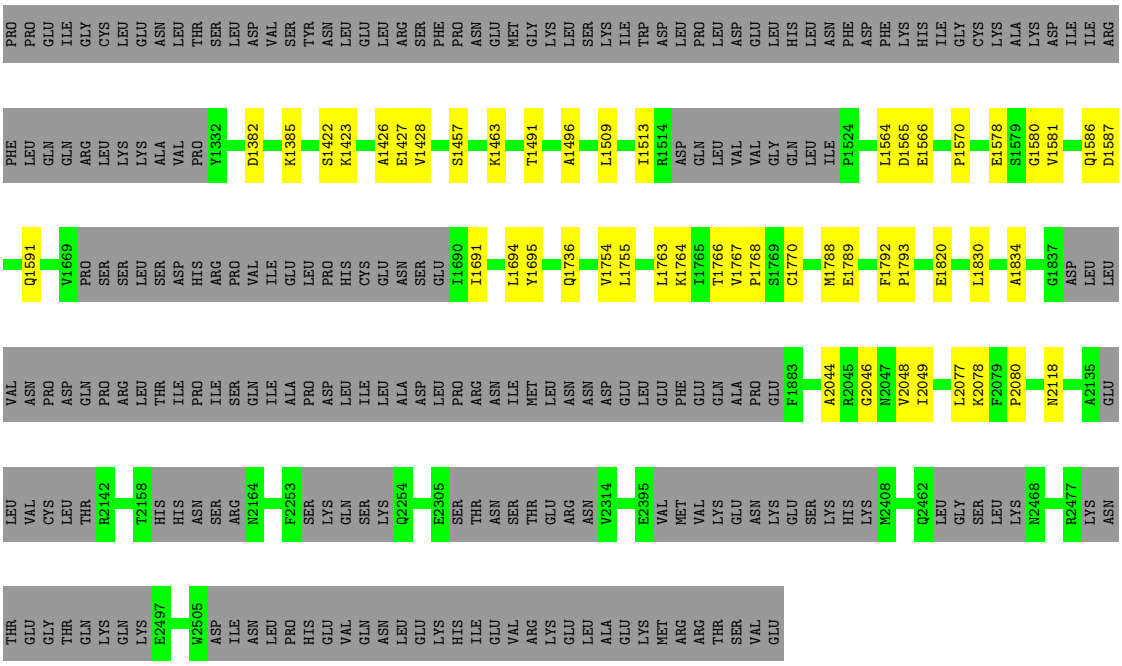
SER SER LYS LEU GLN SER HIS MET ARG HIS SER ASP SER ILE SER SER LEU ALA SER GLU ARG GLU TYR ILE THR SER LEU ASP LEU SER ALA ASN GLU LEU ARG ASP ILE ASP ALA LEU SER GLN LYS CYS CYS ILE SER VAL HIS LEU GLU HIS LEU GLU LYS LEU GLU LEU HIS GLN

ASN ALA LEU THR SER PHE PRO GLN GLN LEU CYS GLU THR LEU LYS SER LEU THR HIS LEU ASP LEU HIS SER ASN LYS PHE THR SER PHE PRO SER TYR LEU LEU LYS MET SER CYS ILE ALA ASN LEU ASP VAL SER ARG ASN ASP ILE GLY PRO SER VAL VAL LEU ASP PRO THR VAL

LYS CYS PRO THR LEU LYS GLN PHE ASN LEU SER TYR ASN GLN LEU SER PHE VAL PRO GLU ASN LEU THR ASP VAL VAL GLU LYS LEU GLU GLN LEU ILE LEU GLU GLY ASN LYS ILE SER GLY ILE CYS SER PRO LEU ARG LEU LYS GLU LEU LYS ILE LEU ASN LEU SER LYS ASN HIS

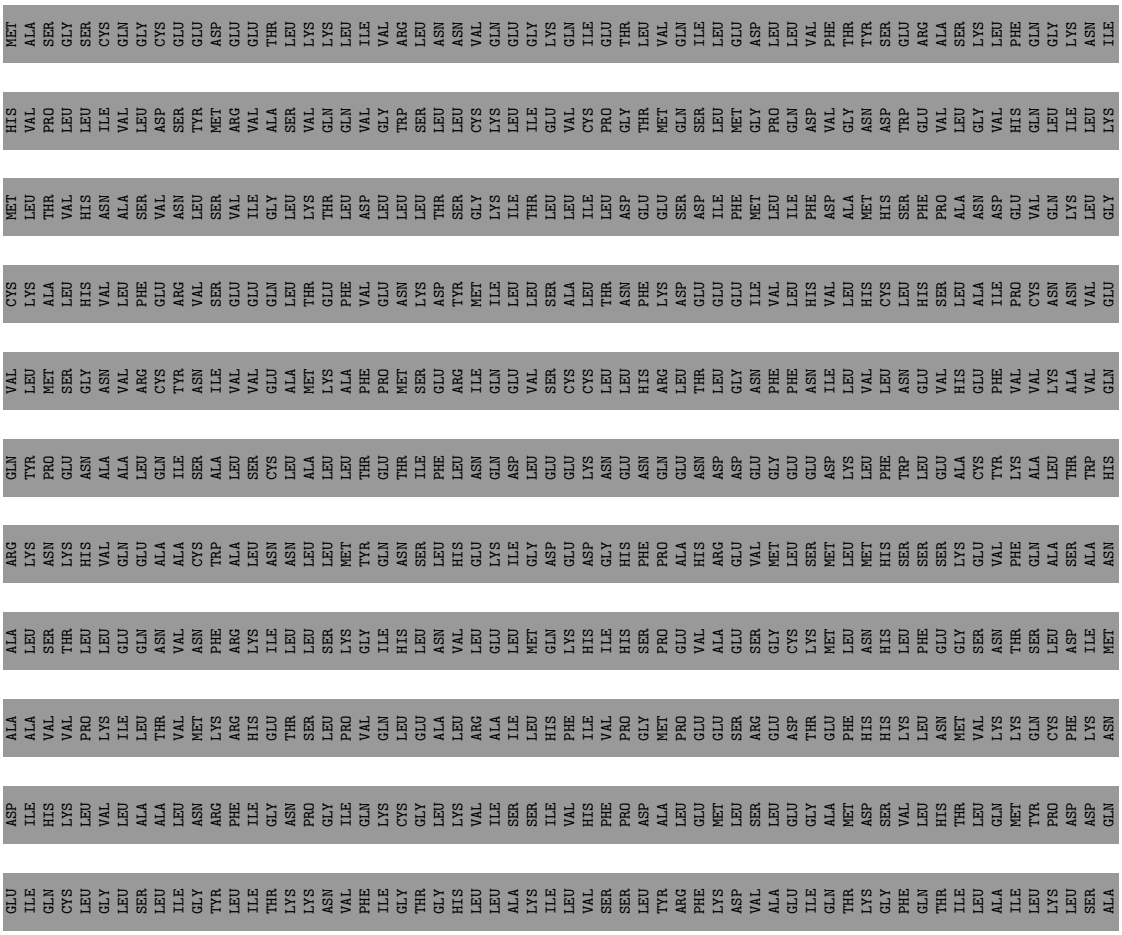
ILE SER SER LEU SER GLU ASN PHE LEU GLU ALA CYS PRO LYS VAL GLU SER PHE SER ALA ARG MET ASN PHE LEU ALA ALA MET PRO PHE LEU PRO PRO SER MET THR ILE LEU LYS LEU SER GLN ASN LYS PHE SER CYS ILE PRO GLU ALA ILE LEU ASN LEU PRO HIS LEU ARG SER

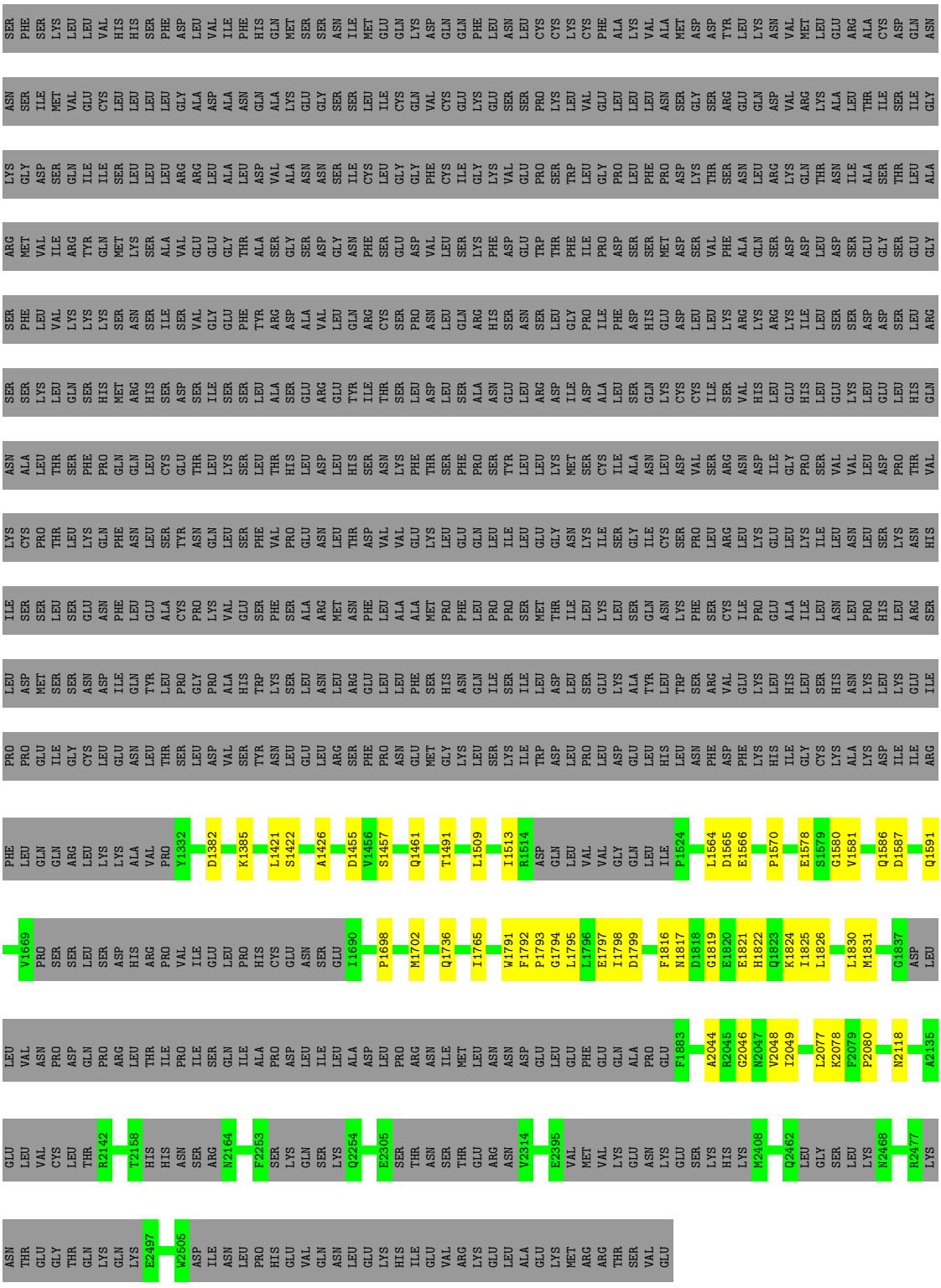
LEU ASP MET SER SER ASN ASP ILE GLN TYR LEU PRO GLY PRO ALA HIS TRP LYS SER LEU ASN LEU ARG GLU LEU LEU PHE SER HIS ASN GLN ILE SER ILE LEU ASP LEU SER GLU LYS ALA TYR LEU TRP SER ARG VAL GLU LYS LEU HIS LEU SER HIS ASN LYS LEU LYS GLU ILE



• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

Chain 25-B:





• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

Chain 26-A:

HIS VAL PRO LEU LEU ILE VAL LEU ASP SER TYR MET ARG VAL ALA SER VAL GLN GLN VAL GLY TRP SER LEU LEU CYS LYS LEU ILE GLU VAL CYS PRO GLY THR MET GLN SER LEU MET GLY PRO GLN ASP VAL GLY ASN ASP TRP GLU VAL LEU GLY VAL HIS GLN LEU ILE LEU LYS

MET LEU THR VAL HIS ASN ALA SER VAL ASN LEU SER VAL ILE GLY LEU LYS THR LEU ASP LEU LEU LEU THR SER GLY LYS ILE THR LEU LEU ILE LEU ASP GLU GLU SER ASP ILE PHE MET LEU ILE PHE ASP ALA MET HIS SER PHE PRO ALA ASN ASP GLU VAL GLN LYS LEU GLY

CYS LYS ALA LEU HIS VAL LEU PHE GLU ARG VAL SER GLU GLU GLN LEU THR GLU PHE VAL GLU ASN LYS ASP TYR MET ILE LEU LEU SER ALA LEU THR ASN PHE LYS ASP GLU GLU ILE VAL LEU HIS VAL LEU HIS CYS LEU HIS SER LEU ALA ILE PRO CYS ASN ASN VAL GLU

VAL LEU MET SER GLY ASN VAL ARG CYS TYR ASN ILE VAL VAL GLU ALA MET LYS ALA PHE PRO MET SER GLU ARG ILE GLN GLU VAL SER CYS CYS LEU LEU HIS ARG LEU THR LEU GLY ASN PHE PHE ASN ILE LEU VAL LEU ASN GLU VAL HIS GLU PHE VAL VAL LYS ALA VAL GLN

GLN TYR PRO GLU ASN ALA ALA LEU GLN ILE SER ALA LEU SER CYS LEU ALA LEU LEU THR GLU THR ILE PHE LEU ASN GLN ASP LEU GLU GLU LYS ASN GLU ASN GLN GLU ASN ASP ASP GLU GLY GLU GLU ASP LYS LEU PHE TRP LEU GLU ALA CYS TYR LYS ALA LEU THR TRP HIS

ARG LYS ASN LYS HIS VAL GLN GLU ALA ALA CYS TRP ALA LEU ASN ASN LEU LEU MET TYR GLN ASN SER LEU HIS GLU LYS ILE GLY ASP GLU ASP GLY HIS PHE PRO ALA HIS ARG GLU VAL MET LEU SER MET LEU MET HIS SER SER SER LYS GLU VAL PHE GLN ALA SER ALA ASN

ALA LEU SER THR LEU LEU GLU GLN ASN VAL ASN PHE ARG LYS ILE LEU LEU SER LYS GLY ILE HIS LEU ASN VAL LEU GLU LEU MET GLN LYS HIS ILE HIS SER PRO GLU VAL ALA GLU SER GLY CYS LYS MET LEU ASN HIS LEU PHE GLU GLY SER ASN THR SER LEU ASP ILE MET

ALA ALA VAL VAL PRO LYS ILE LEU THR VAL MET LYS ARG HIS GLU THR SER LEU PRO VAL GLN LEU GLU ALA LEU ARG ALA ILE LEU HIS PHE ILE VAL PRO GLY MET PRO GLU GLU SER ARG GLU ASP THR GLU PHE HIS HIS LYS LEU ASN MET VAL LYS LYS GLN CYS PHE LYS ASN

ASP ILE HIS LYS LEU VAL LEU ALA ALA LEU ASN ARG PHE ILE GLY ASN PRO GLY ILE GLN LYS CYS GLY LEU LYS VAL ILE SER SER ILE VAL HIS PHE PRO ASP ALA LEU GLU MET LEU SER LEU GLU GLY ALA MET ASP SER VAL LEU HIS THR LEU GLN MET TYR PRO ASP ASP GLN

GLU ILE GLN CYS LEU GLY LEU SER LEU ILE GLY TYR LEU ILE THR LYS LYS ASN VAL PHE ILE GLY THR GLY HIS LEU LEU ALA LYS ILE LEU VAL SER SER LEU TYR ARG PHE LYS ASP VAL ALA GLU ILE GLN THR LYS GLY PHE GLN THR ILE LEU ALA ILE LEU LYS LEU SER ALA

SER PHE SER LYS LEU LEU VAL HIS HIS SER PHE ASP LEU VAL ILE PHE HIS GLN MET SER SER ASN ILE MET GLU GLN LYS ASP GLN GLN PHE LEU ASN LEU CYS CYS LYS CYS PHE ALA LYS VAL ALA MET ASP ASP TYR LEU LYS ASN VAL MET LEU GLU ARG ALA CYS ASP GLN ASN

ASN SER ILE MET VAL GLU CYS LEU LEU LEU LEU GLY ALA ASP ALA ASN GLN ALA LYS GLU GLY SER SER LEU ILE CYS GLN VAL CYS GLU LYS GLU SER SER PRO LYS LEU VAL GLU LEU LEU LEU ASN SER GLY SER ARG GLU GLN ASP VAL ARG LYS ALA LEU THR ILE SER ILE GLY

LYS GLY ASP SER GLN ILE ILE SER LEU LEU LEU ARG ARG LEU ALA LEU ASP VAL ALA ASN ASN SER ILE CYS LEU GLY GLY PHE CYS ILE GLY LYS VAL GLU PRO SER TRP LEU GLY PRO LEU PHE PRO ASP LYS THR SER ASN LEU ARG LYS GLN THR ASN ILE ALA SER THR LEU ALA

ARG MET VAL ILE ARG TYR GLN MET LYS SER ALA VAL GLU GLU GLY THR ALA SER GLY SER ASP GLY ASN PHE SER GLU ASP VAL LEU SER LYS PHE ASP GLU TRP THR PHE ILE PRO ASP SER SER MET ASP SER VAL PHE ALA GLN SER ASP ASP LEU ASP SER GLU GLY SER GLU GLY

SER PHE LEU VAL LYS LYS LYS SER ASN SER ILE SER VAL GLY GLU PHE TYR ARG ASP ALA VAL LEU GLN ARG CYS SER PRO ASN LEU GLN ARG HIS SER ASN SER LEU GLY PRO ILE PHE ASP HIS GLU ASP LEU LEU LYS ARG LYS ARG LYS ILE LEU SER SER ASP ASP SER LEU ARG

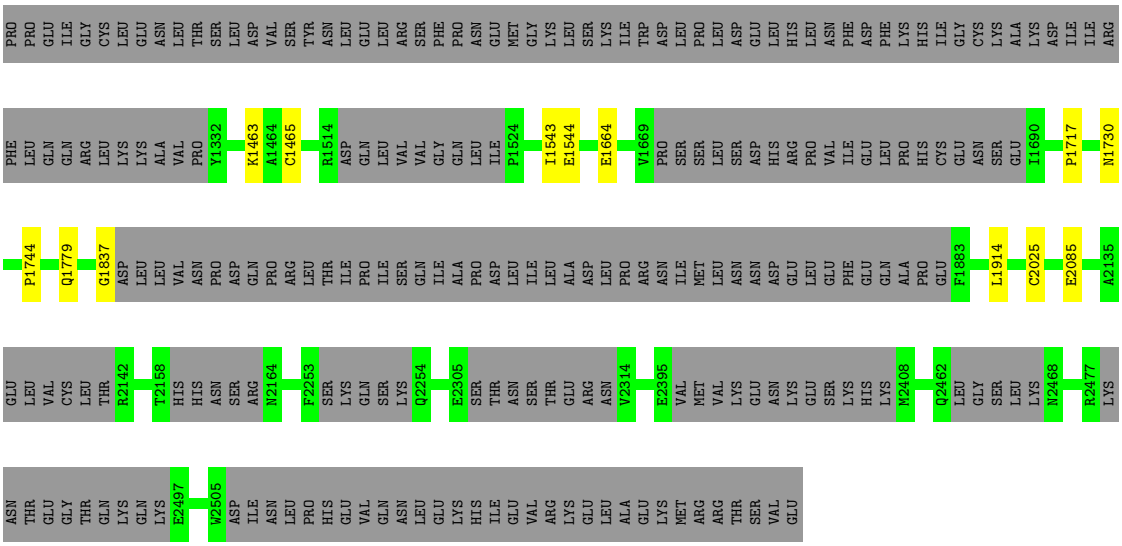
SER SER LYS LEU GLN SER HIS MET ARG HIS SER ASP SER ILE SER SER LEU ALA SER GLU ARG GLU TYR ILE THR SER LEU ASP LEU SER ALA ASN GLU LEU ARG ASP ILE ASP ALA LEU SER GLN LYS CYS CYS ILE SER VAL HIS LEU GLU HIS LEU GLU LYS LEU GLU LEU HIS GLN

ASN ALA LEU THR SER PHE PRO GLN GLN LEU CYS GLU THR LEU LYS SER LEU THR HIS LEU ASP LEU HIS SER ASN LYS PHE THR SER PHE PRO SER TYR LEU LEU LYS MET SER CYS ILE ALA ASN LEU ASP VAL SER ARG ASN ASP ILE GLY PRO SER VAL VAL LEU ASP PRO THR VAL

LYS CYS PRO THR LEU LYS GLN PHE ASN LEU SER TYR ASN GLN LEU SER PHE VAL PRO GLU ASN LEU THR ASP VAL VAL GLU LYS LEU GLU GLN LEU ILE LEU GLU GLY ASN LYS ILE SER GLY ILE CYS SER PRO LEU ARG LEU LYS GLU LEU LYS ILE LEU ASN LEU SER LYS ASN HIS

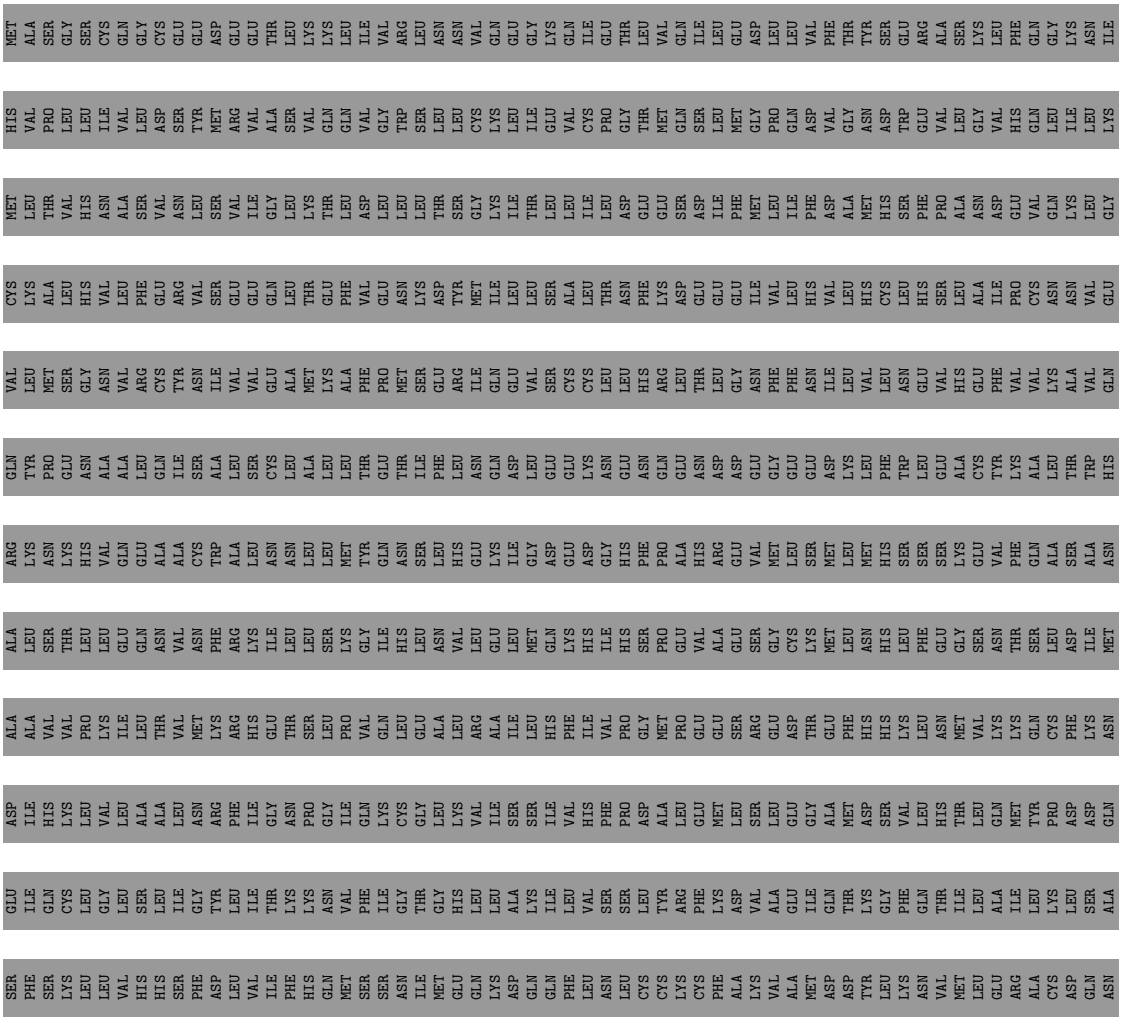
ILE SER SER LEU SER GLU ASN PHE LEU GLU ALA CYS PRO LYS VAL GLU SER PHE SER ALA ARG MET ASN PHE LEU ALA ALA MET PRO PHE LEU PRO PRO SER MET THR ILE LEU LYS LEU SER GLN ASN LYS PHE SER CYS ILE PRO GLU ALA ILE LEU ASN LEU PRO HIS LEU ARG SER

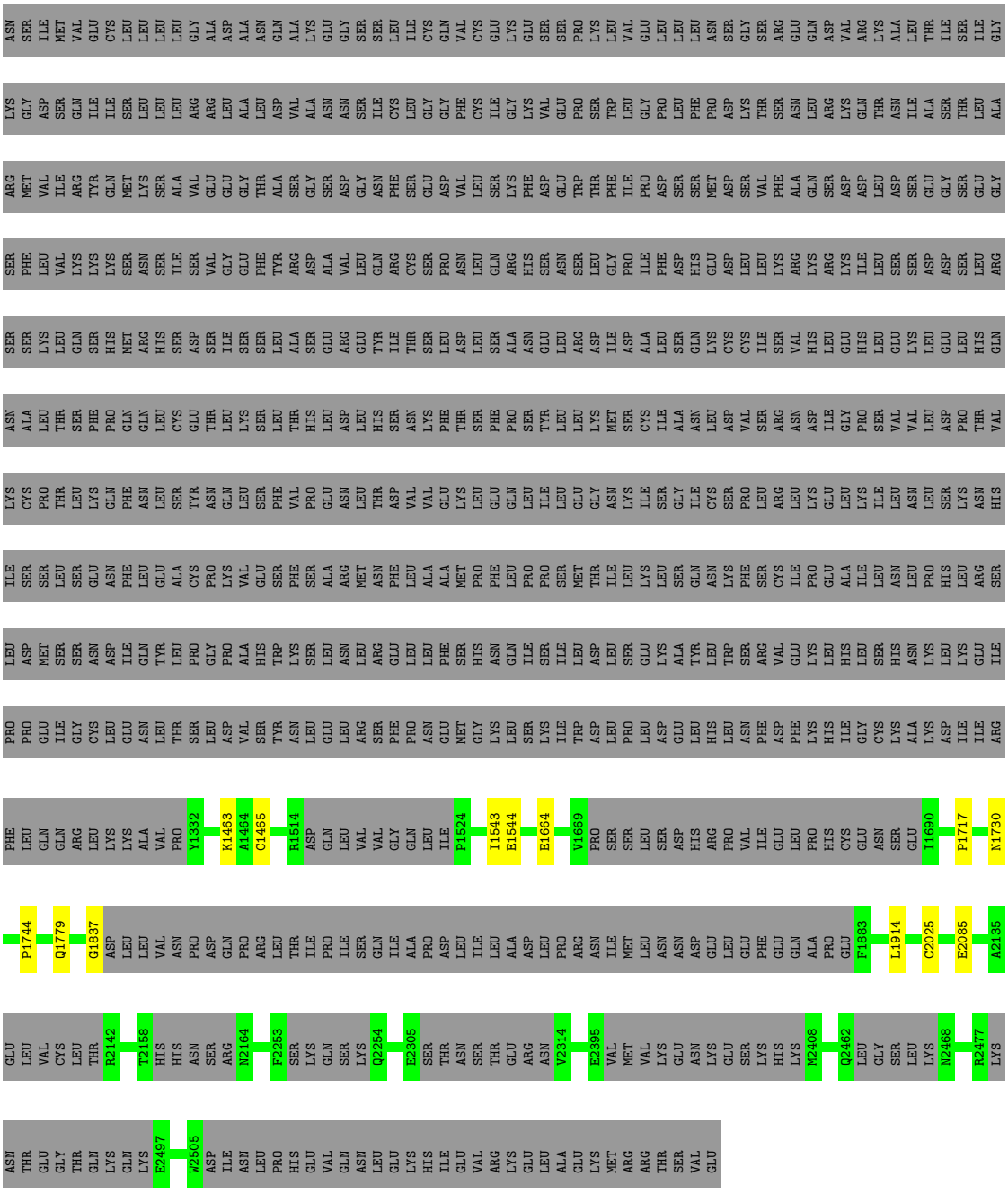
LEU ASP MET SER SER ASN ASP ILE GLN TYR LEU PRO GLY PRO ALA HIS TRP LYS SER LEU ASN LEU ARG GLU LEU LEU PHE SER HIS ASN GLN ILE SER ILE LEU ASP LEU SER GLU LYS ALA TYR LEU TRP SER ARG VAL GLU LYS LEU HIS LEU SER HIS ASN LYS LEU LYS GLU ILE



• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

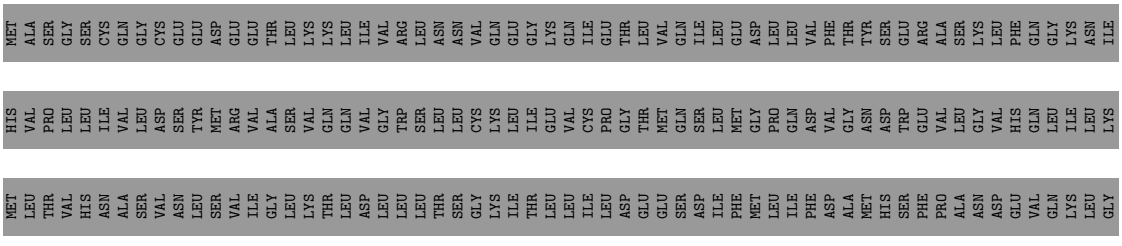
Chain 26-B:

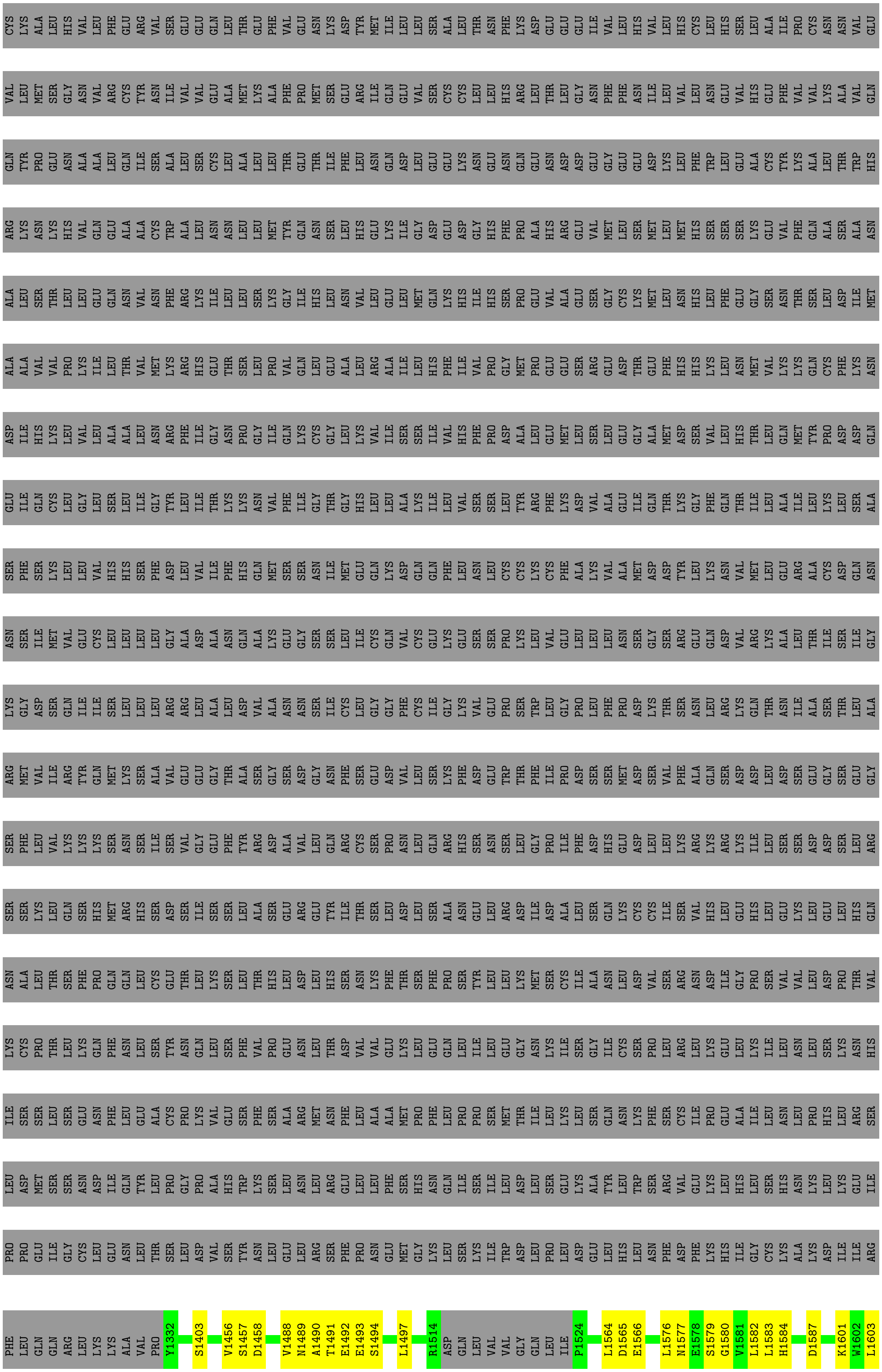


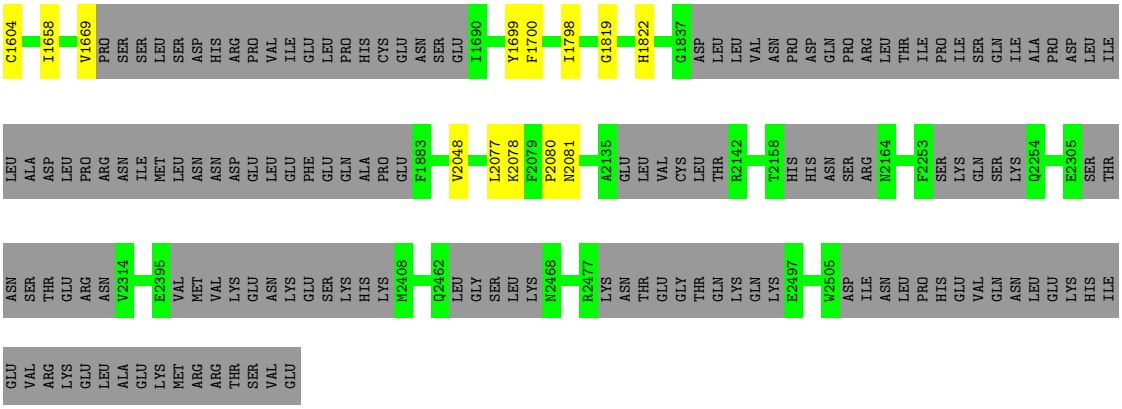


• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

Chain 27-A:

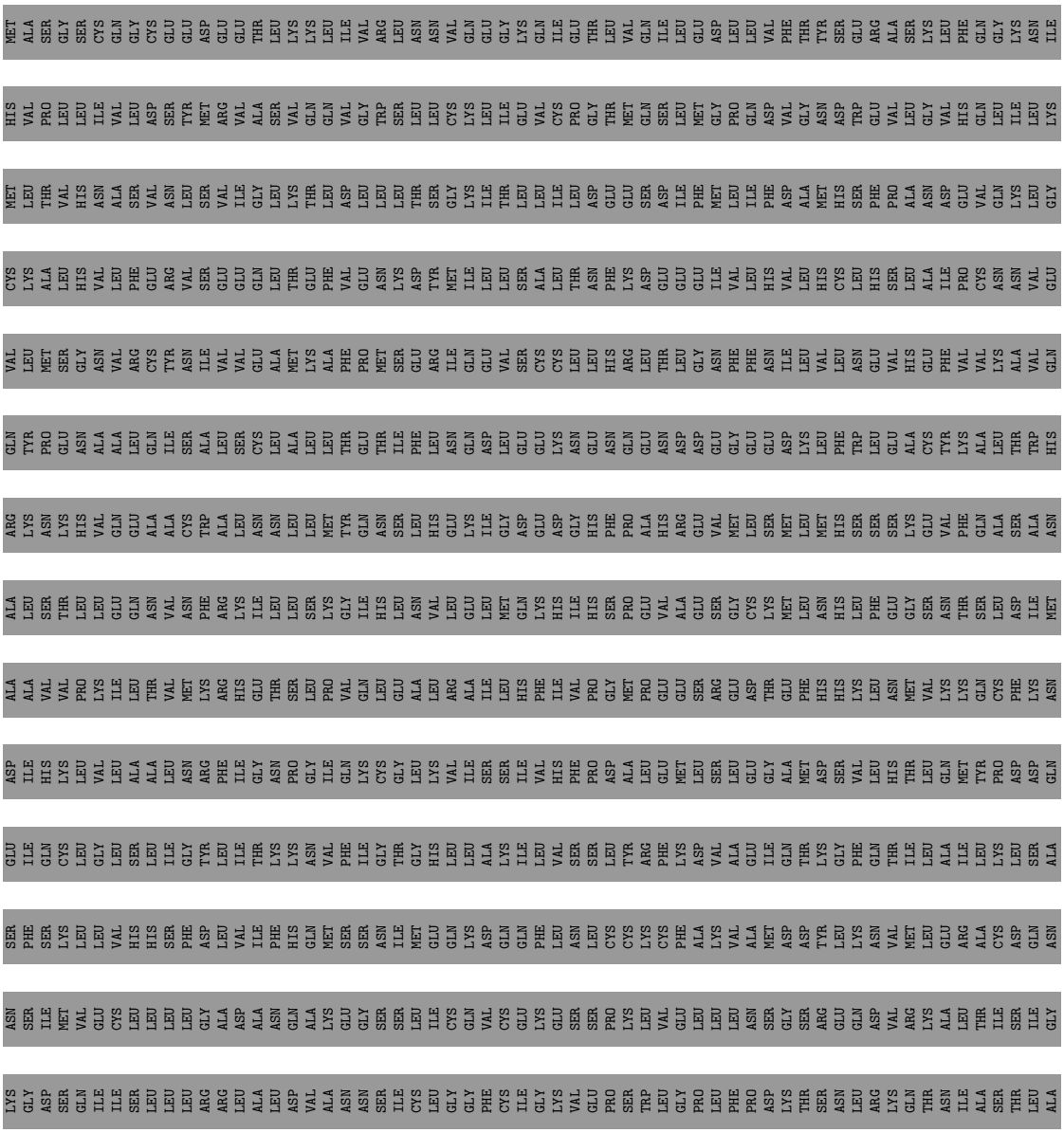


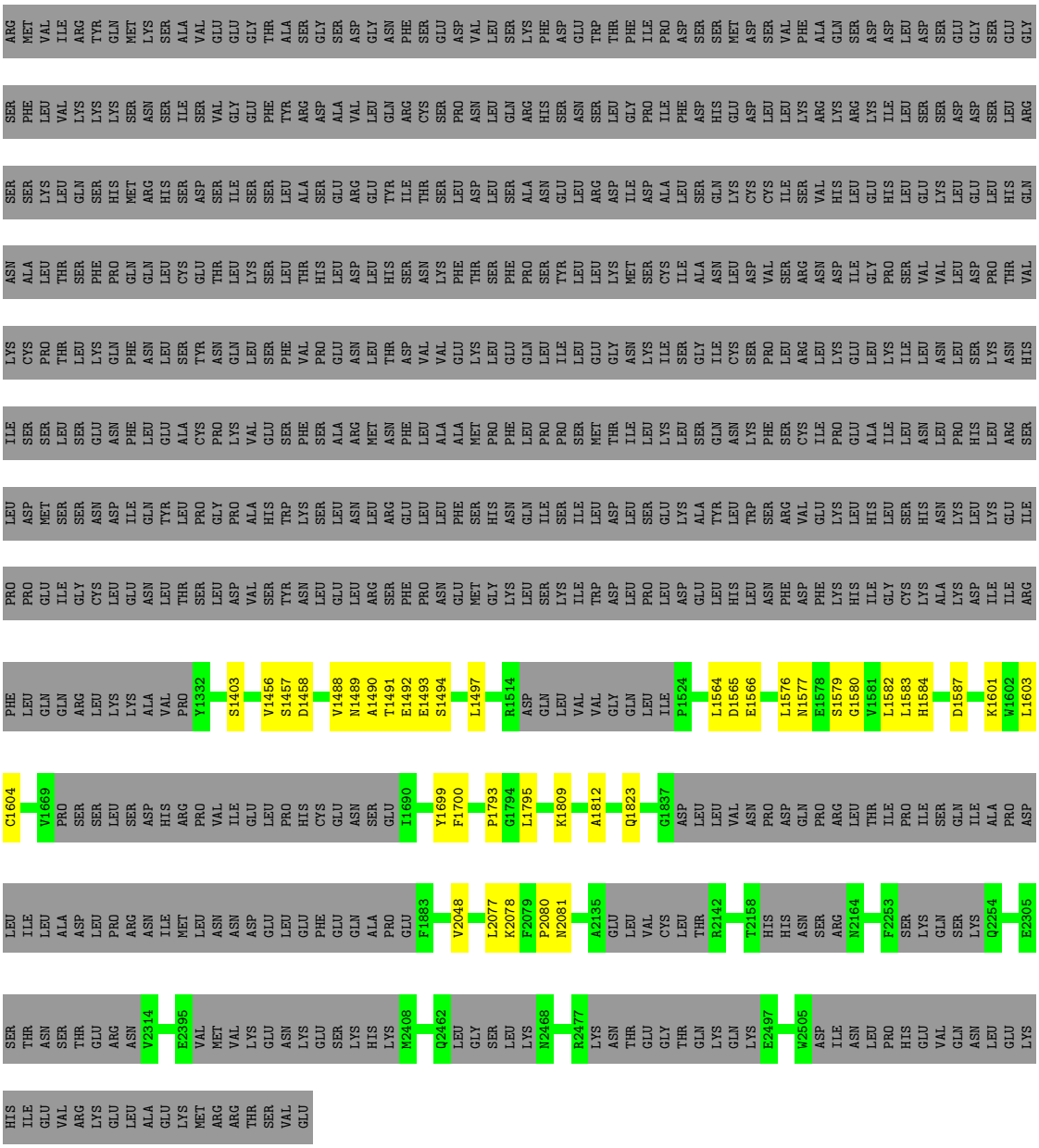

CYS LYS ALA LEU HIS VAL LEU PHE GLU ARG VAL SER GLU GLU GLN LEU THR GLU PHE VAL GLU ASN LYS ASP TYR MET ILE LEU LEU SER ALA LEU THR ASN PHE LYS ASP GLU GLU GLU ILE VAL LEU HIS VAL LEU HIS CYS LEU HIS SER LEU ALA ILE PRO CYS ASN ASN VAL GLU
VAL LEU MET SER GLY ASN VAL ARG CYS TYR ASN ILE VAL VAL GLU ALA MET LYS ALA PHE PRO MET SER GLU ARG ILE GLN GLU VAL SER CYS CYS LEU LEU HIS ARG LEU THR LEU GLY ASN PHE PHE ASN ILE LEU VAL LEU ASN GLU VAL HIS GLU PHE VAL VAL LYS ALA VAL GLN
GLN TYR PRO GLU ASN ALA ALA LEU GLN ILE SER ALA LEU SER CYS LEU ALA LEU LEU THR GLU THR ILE PHE LEU ASN GLN ASP LEU GLU GLU LYS ASN GLU ASN GLN GLU ASN ASP ASP GLU GLY GLU GLU ASP LYS LEU PHE TRP LEU GLU ALA CYS TYR LYS ALA LEU THR TRP HIS
ARG LYS ASN LYS HIS VAL GLN GLU ALA ALA CYS TRP ALA LEU ASN ASN LEU LEU MET TYR GLN ASN SER LEU HIS GLU LYS ILE GLY ASP GLU ASP GLY HIS PHE PRO ALA HIS ARG GLU VAL MET LEU SER MET LEU MET HIS SER SER SER LYS GLU VAL PHE GLN ALA SER ALA ASN
ALA LEU SER THR LEU LEU GLU GLN ASN VAL ASN PHE ARG LYS ILE LEU LEU SER LYS GLY ILE HIS LEU ASN VAL LEU GLU LEU MET GLN LYS HIS ILE HIS SER PRO GLU VAL ALA GLU SER GLY CYS LYS MET LEU ASN HIS LEU PHE GLU GLY SER ASN THR SER LEU ASP ILE MET
ALA ALA VAL VAL PRO LYS ILE LEU THR VAL MET LYS ARG HIS GLU THR SER LEU PRO VAL GLN LEU GLU ALA LEU ARG ALA ILE LEU HIS PHE ILE VAL PRO GLY MET PRO GLU GLU SER ARG GLU ASP THR GLU PHE HIS HIS LYS LEU ASN MET VAL LYS LYS GLN CYS PHE LYS ASN
ASP ILE HIS LYS LEU VAL LEU ALA ALA LEU ASN ARG PHE ILE GLY ASN PRO GLY ILE GLN LYS CYS GLY LEU LYS VAL ILE SER SER ILE VAL HIS PHE PRO ASP ALA LEU GLU MET LEU SER LEU GLU GLY ALA MET ASP SER VAL LEU HIS THR LEU GLN MET TYR PRO ASP ASP GLN
GLU ILE GLN CYS LEU GLY LEU SER LEU ILE GLY TYR LEU ILE THR LYS LYS ASN VAL PHE ILE GLY THR GLY HIS LEU LEU ALA LYS ILE LEU VAL SER SER LEU TYR ARG PHE LYS ASP VAL ALA GLU ILE GLN THR LYS GLY PHE GLN THR ILE LEU ALA ILE LEU LYS LEU SER ALA
SER PHE SER LYS LEU LEU VAL HIS HIS SER PHE ASP LEU VAL ILE PHE HIS GLN MET SER SER ASN ILE MET GLU GLN LYS ASP GLN GLN PHE LEU ASN LEU CYS CYS LYS CYS PHE ALA LYS VAL ALA MET ASP ASP TYR LEU LYS ASN VAL MET LEU GLU ARG ALA CYS ASP GLN ASN
ASN SER ILE MET VAL GLU CYS LEU LEU LEU LEU GLY ALA ASP ALA ASN GLN ALA LYS GLU GLY SER SER LEU ILE CYS GLN VAL CYS GLU LYS GLU SER SER PRO LYS LEU VAL GLU LEU LEU LEU ASN SER GLY SER ARG GLU GLN ASP VAL ARG LYS ALA LEU THR ILE SER ILE GLY
LYS GLY ASP SER GLN ILE ILE SER LEU LEU LEU ARG ARG LEU ALA LEU ASP VAL ALA ASN ASN SER ILE CYS LEU GLY GLY PHE CYS ILE GLY LYS VAL GLU PRO SER TRP LEU GLY PRO LEU PHE PRO ASP LYS THR SER ASN LEU ARG LYS GLN THR ASN ILE ALA SER THR LEU ALA
ARG MET VAL ILE ARG TYR GLN MET LYS SER ALA VAL GLU GLU GLY THR ALA SER GLY SER ASP GLY ASN PHE SER GLU ASP VAL LEU SER LYS PHE ASP GLU TRP THR PHE ILE PRO ASP SER SER MET ASP SER VAL PHE ALA GLN SER ASP ASP LEU ASP SER GLU GLY SER GLU GLY
SER PHE LEU VAL LYS LYS LYS SER ASN SER ILE SER VAL GLY GLU PHE TYR ARG ASP ALA VAL LEU GLN ARG CYS SER PRO ASN LEU GLN ARG HIS SER ASN SER LEU GLY PRO ILE PHE ASP HIS GLU ASP LEU LEU LYS ARG LYS ARG LYS ILE LEU SER SER ASP ASP SER LEU ARG
SER SER LYS LEU GLN SER HIS MET ARG HIS SER ASP SER ILE SER SER LEU ALA SER GLU ARG GLU TYR ILE THR SER LEU ASP LEU SER ALA ASN GLU LEU ARG ASP ILE ASP ALA LEU SER GLN LYS CYS CYS ILE SER VAL HIS LEU GLU HIS LEU GLU LYS LEU GLU LEU HIS GLN
ASN ALA LEU THR SER PHE PRO GLN GLN LEU CYS GLU THR LEU LYS SER LEU THR HIS LEU ASP LEU HIS SER ASN LYS PHE THR SER PHE PRO SER TYR LEU LEU LYS MET SER CYS ILE ALA ASN LEU ASP VAL SER ARG ASN ASP ILE GLY PRO SER VAL VAL LEU ASP PRO THR VAL
LYS CYS PRO THR LEU LYS GLN PHE ASN LEU SER TYR ASN GLN LEU SER PHE VAL PRO GLU ASN LEU THR ASP VAL VAL GLU LYS LEU GLU GLN LEU ILE LEU GLU GLY ASN LYS ILE SER GLY ILE CYS SER PRO LEU ARG LEU LYS GLU LEU LYS ILE LEU ASN LEU SER LYS ASN HIS
ILE SER SER LEU SER GLU ASN PHE LEU GLU ALA CYS PRO LYS VAL GLU SER PHE SER ALA ARG MET ASN PHE LEU ALA ALA MET PRO PHE LEU PRO PRO SER MET THR ILE LEU LYS LEU SER GLN ASN LYS PHE SER CYS ILE PRO GLU ALA ILE LEU ASN LEU PRO HIS LEU ARG SER
LEU ASP MET SER SER ASN ASP ILE GLN TYR LEU PRO GLY PRO ALA HIS TRP LYS SER LEU ASN LEU ARG GLU LEU LEU PHE SER HIS ASN GLN ILE SER ILE LEU ASP LEU SER GLU LYS ALA TYR LEU TRP SER ARG VAL GLU LYS LEU HIS LEU SER HIS ASN LYS LEU LYS GLU ILE
PRO PRO GLU ILE GLY CYS LEU GLU ASN LEU THR SER LEU ASP VAL SER TYR ASN LEU GLU LEU ARG SER PHE PRO ASN GLU MET GLY LYS LEU SER LYS ILE TRP ASP LEU PRO LEU ASP GLU LEU HIS LEU ASN PHE ASP PHE LYS HIS ILE GLY CYS LYS ALA LYS ASP ILE ILE ARG
PHE LEU GLN GLN ARG LEU LYS LYS ALA VAL PRO Y1332 S1403 V1456 S1457 D1458 V1488 N1489 A1490 T1491 E1492 E1493 S1494 L1497 R1514 ASP GLN LEU VAL VAL GLY GLN LEU ILE P1524 L1564 D1565 E1566 L1576 N1577 E1578 S1579 G1580 V1581 L1582 L1583 H1584 D1587 K1601 W1602 L1603



• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

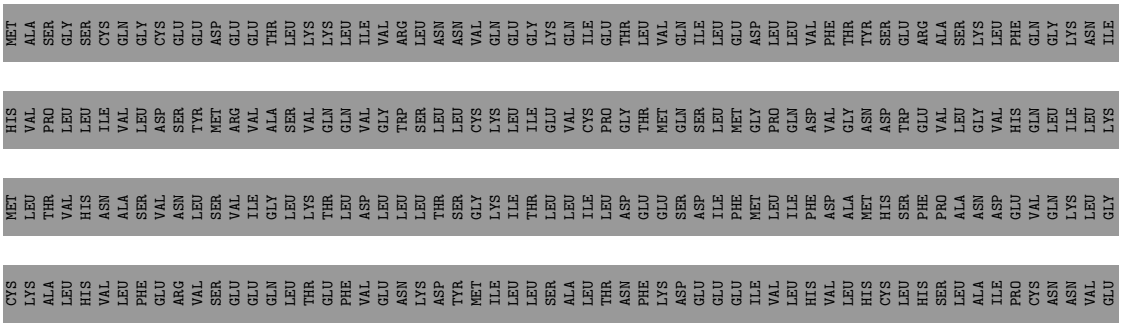
Chain 27-B: 40% • 59%

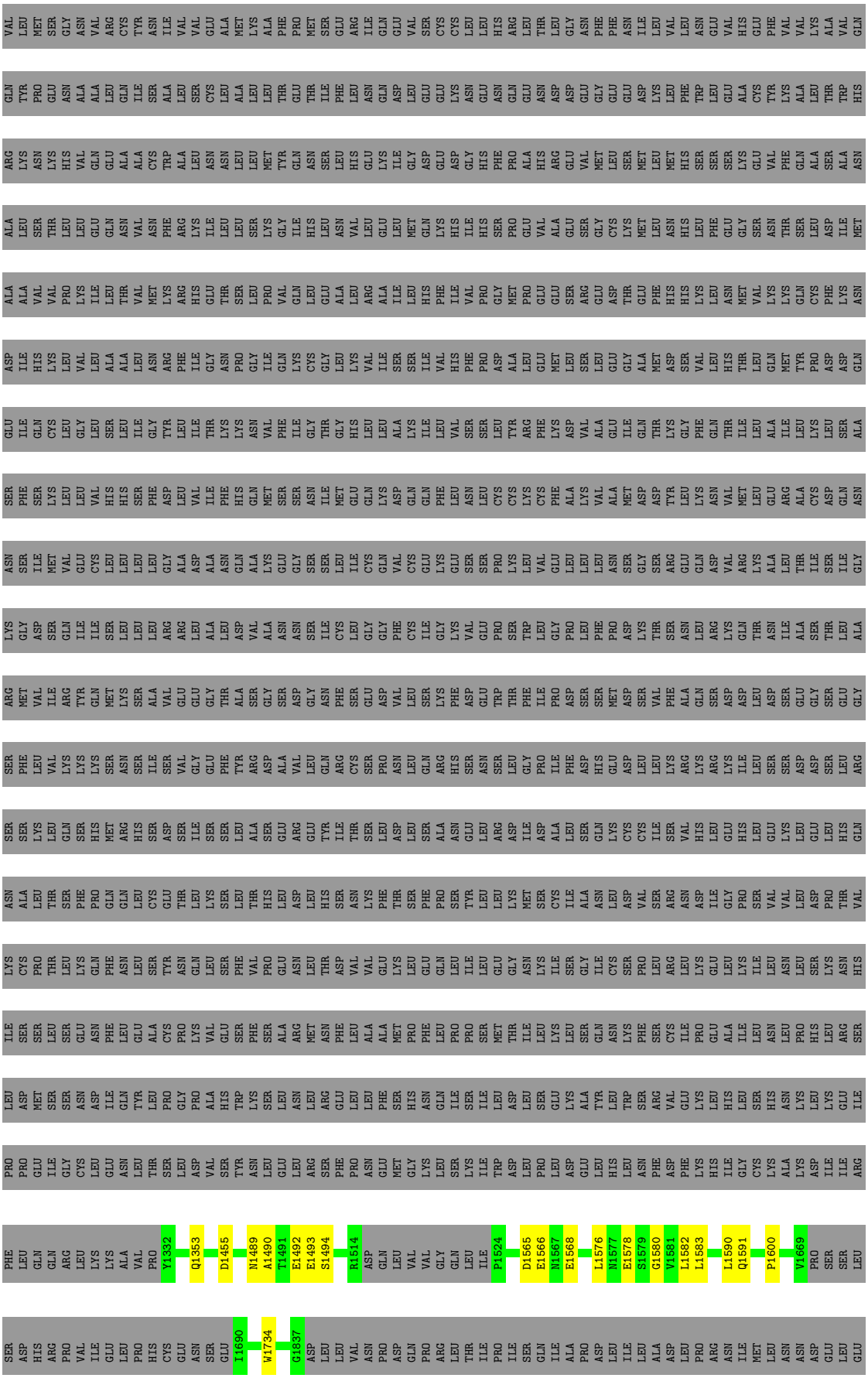




• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

Chain 28-A:

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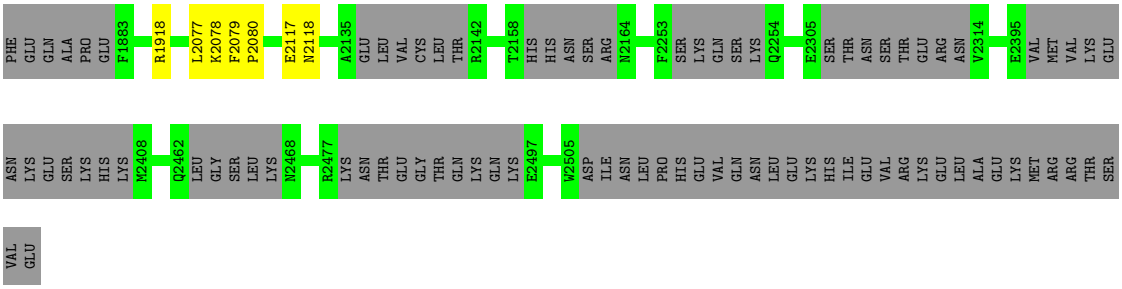
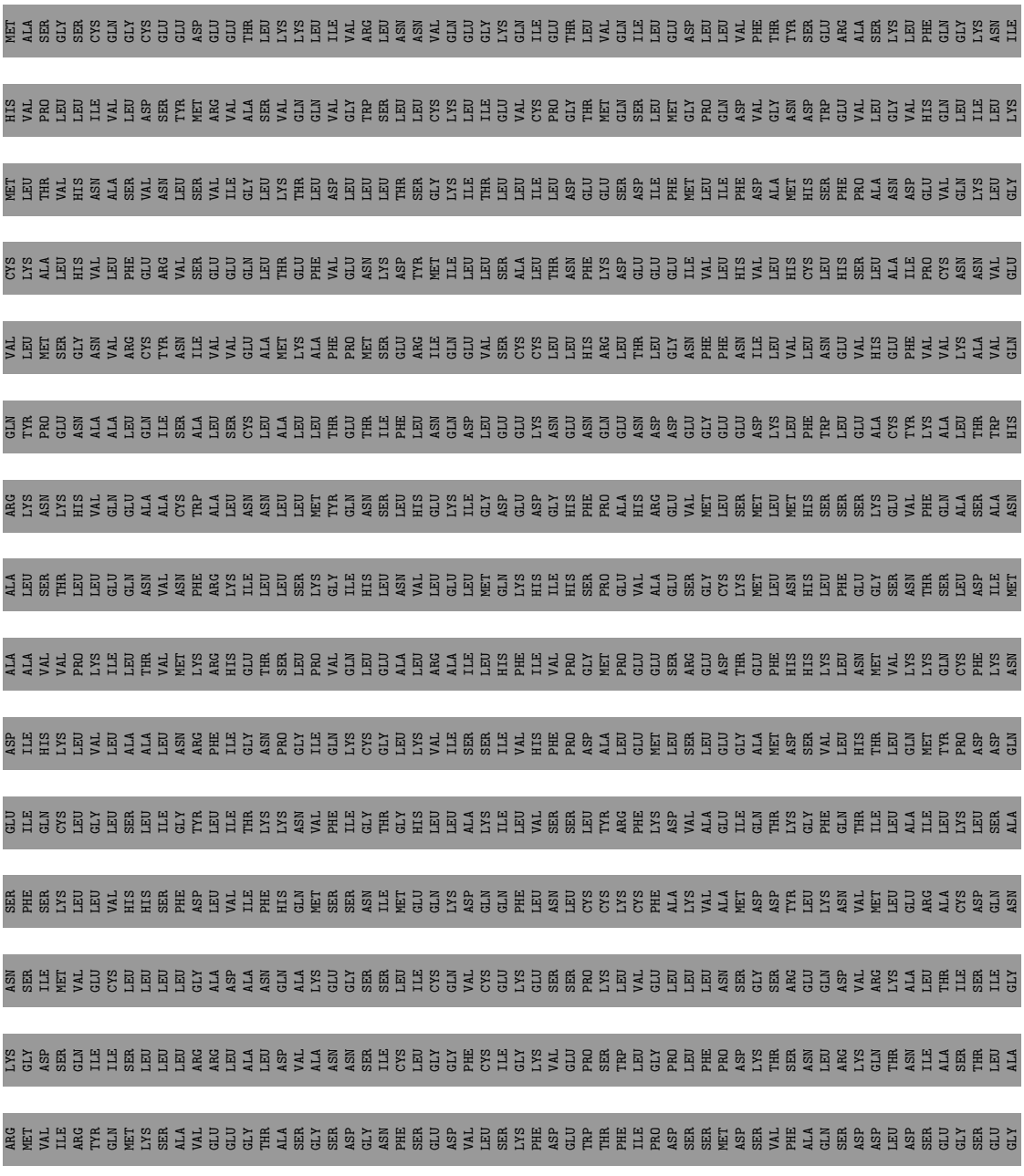
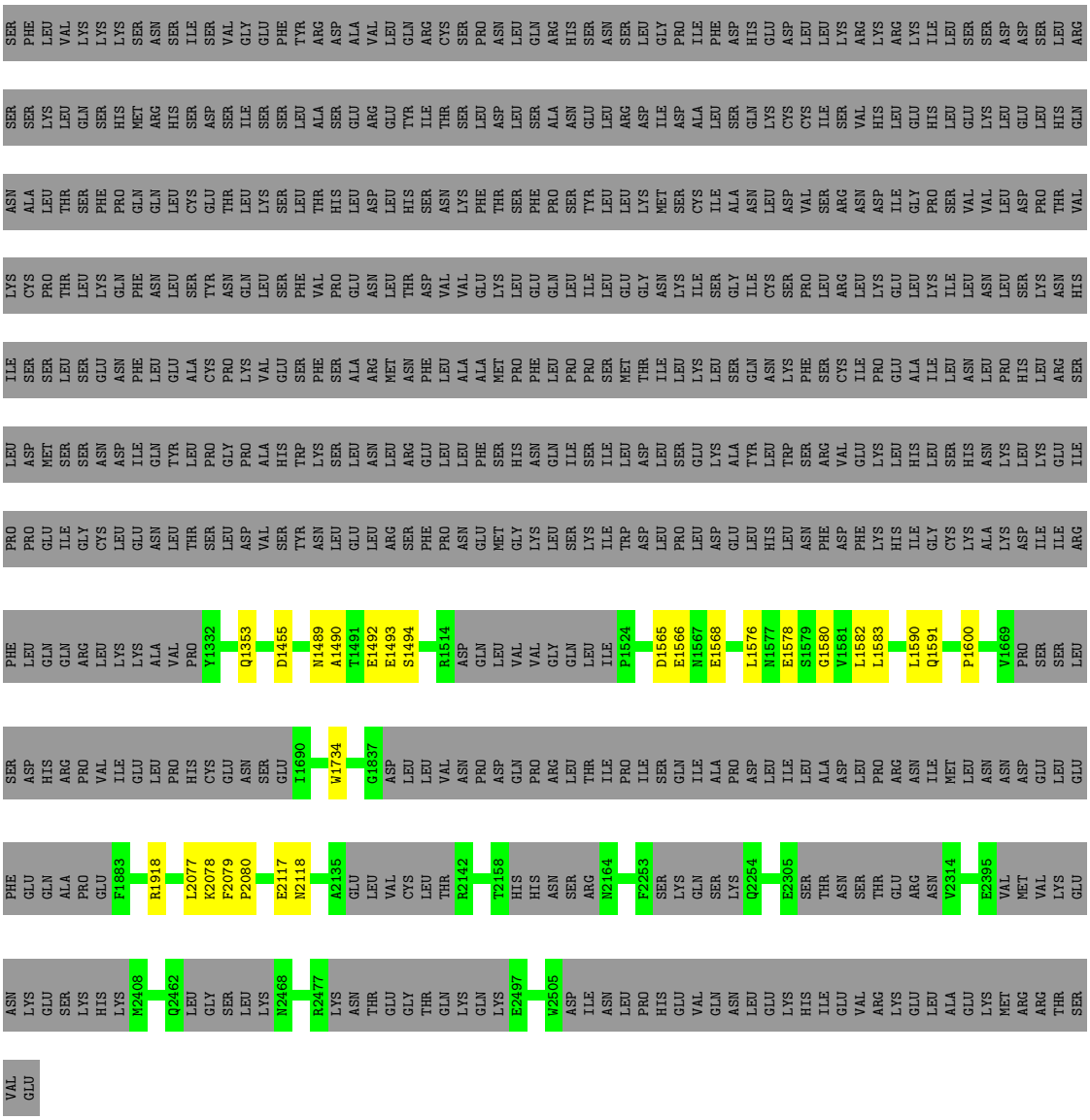


• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

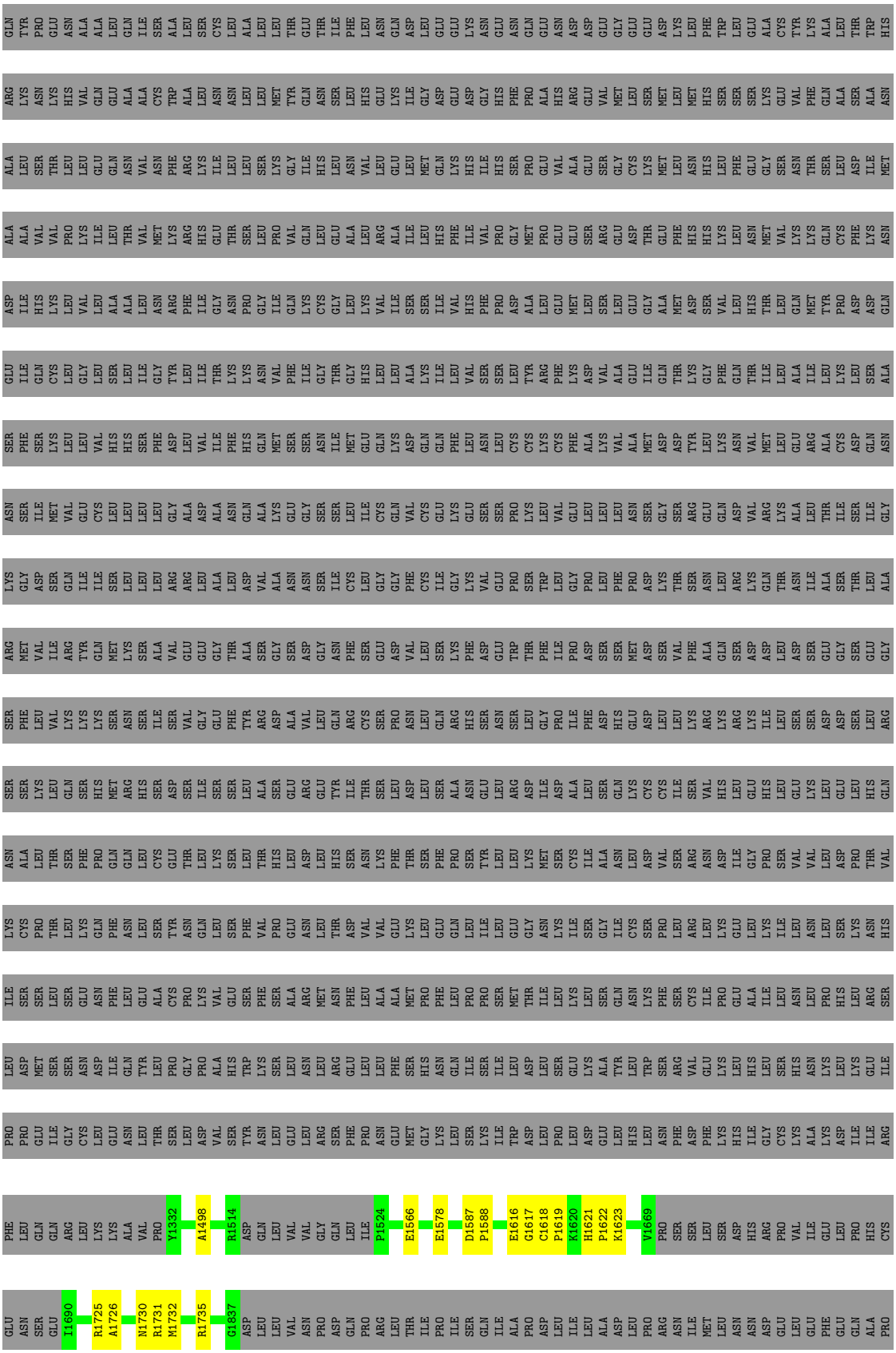
Chain 28-B:





• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

Chain 29-A: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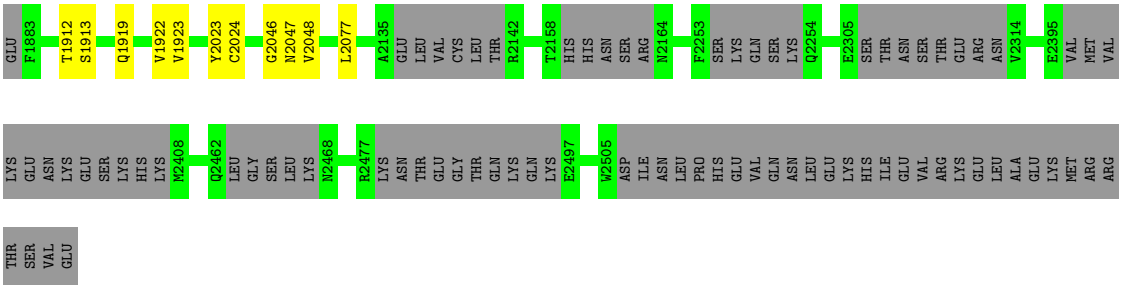
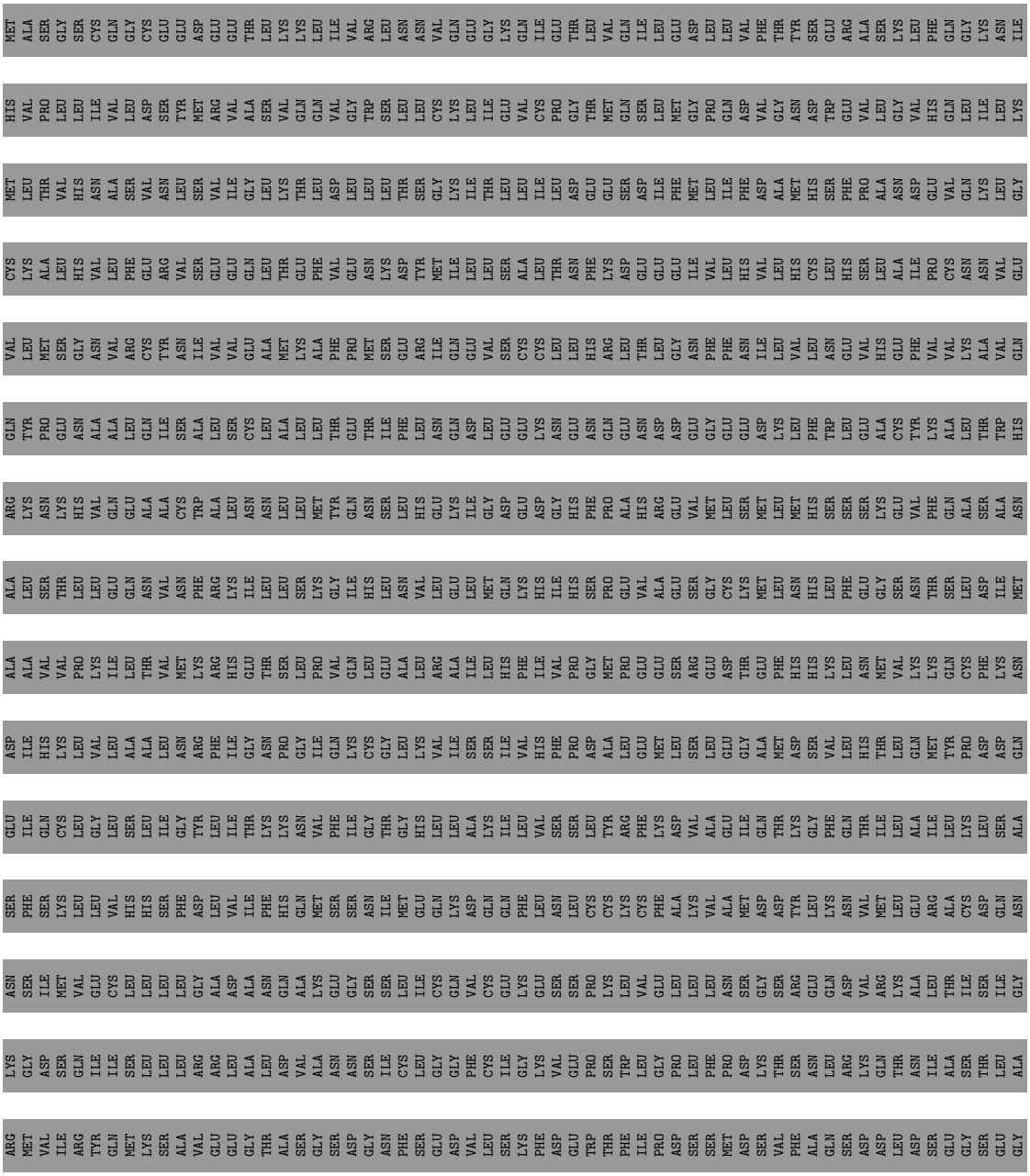
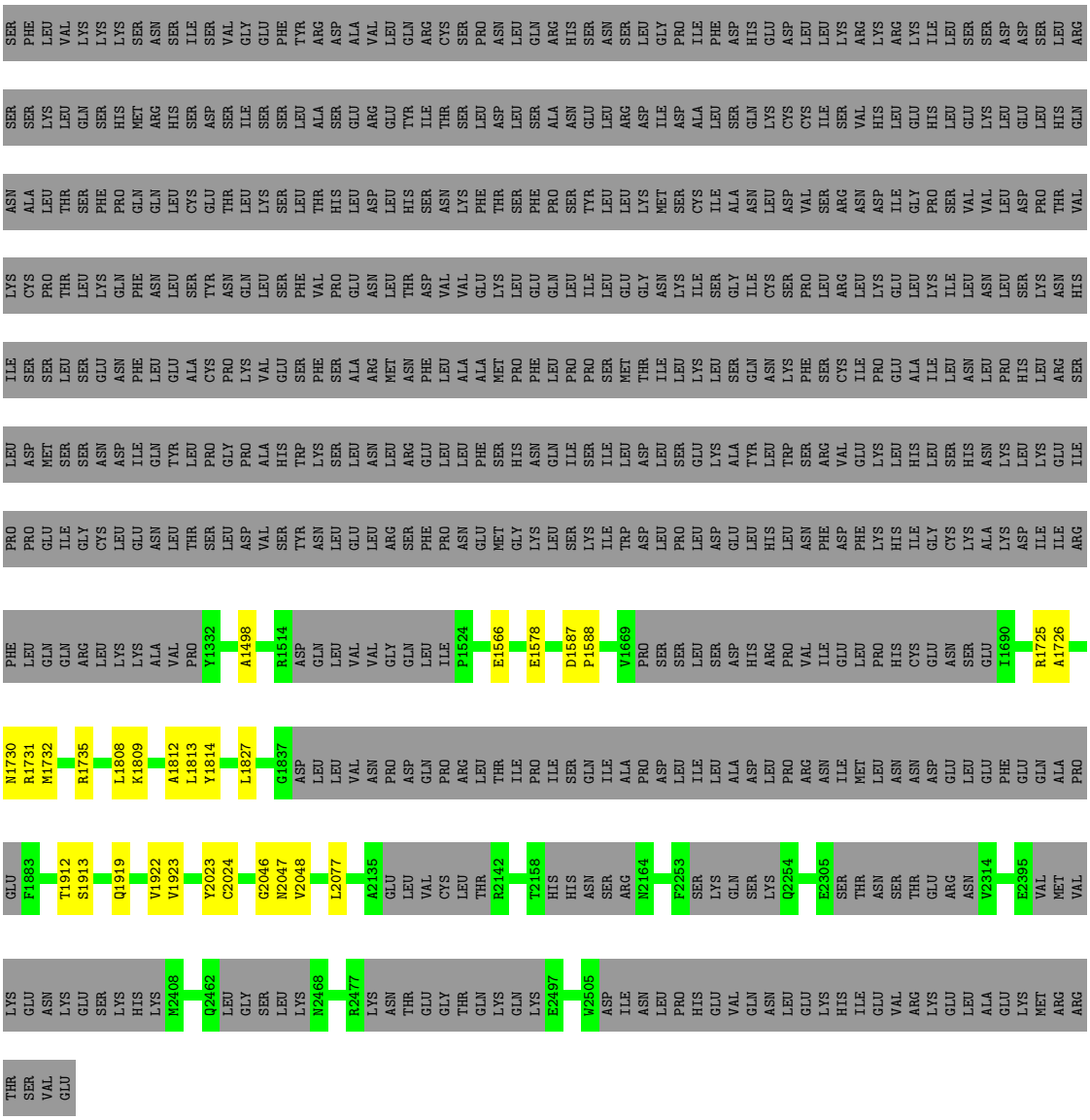
ARG LYS ASN LYS HIS VAL GLN GLU GLU ALA ALA CYS TRP ALA LEU ASN ASN LEU LEU MET TYR GLN ASN SER LEU HIS GLU LYS ILE GLY ASP GLU ASP GLY HIS PHE PRO ALA HIS ARG GLU VAL MET LEU SER SER MET LEU MET HIS SER SER SER LYS GLU VAL PHE GLN ALA SER ALA
ALA LEU SER THR LEU LEU GLU GLN LEU GLU GLN ASN VAL ASN PHE ARG LYS ILE LEU LEU SER LYS GLY ILE HIS LEU ASN VAL LEU GLU LEU MET GLN LYS HIS ILE HIS SER PRO GLU VAL ALA GLU SER GLY CYS LYS MET LEU ASN HIS LEU PHE GLU GLY SER ASN THR SER LEU ASP ILE MET
ALA ALA VAL VAL PRO LYS ILE LEU GLU GLN THR VAL MET LYS ARG HIS GLU THR SER LEU PRO VAL GLN LEU GLU GLU ALA LEU ARG ALA ILE LEU THR GLU PHE HIS HIS LYS LEU ASN MET VAL LYS LYS GLN CYS PHE LYS ASN
ASP ILE HIS LYS LEU VAL LEU ALA ALA LEU ASN ARG PHE ILE GLY ASN PRO GLY ILE GLN LYS CYS GLY LEU LYS VAL ILE SER SER ILE VAL HIS PHE PRO ASP ALA LEU GLU MET LEU SER LEU GLU GLY ALA MET ASP SER LEU VAL LEU GLN MET TYR PRO ASP ASP GLN
GLU ILE GLN CYS LEU GLY LEU SER LEU ILE ILE GLY TYR LEU ILE GLY THR LYS LYS ASN VAL PHE ILE GLY THR GLY HIS LEU LEU LEU ALA LYS VAL PHE LYS ASP VAL ALA GLU ILE GLN LEU GLY ALA MET ASP SER VAL LEU HIS LEU LEU ALA ILE LEU LYS LEU SER SER ALA
SER PHE SER LYS LEU LEU VAL HIS HIS SER PHE ASP LEU VAL ILE PHE HIS GLN MET SER SER ASN ILE MET GLU GLN LYS ASP GLN GLN PHE LEU ASN LEU CYS CYS LYS CYS PHE ALA LYS VAL ALA MET ASP ASP TYR LEU LYS ASN VAL MET LEU LEU GLU ARG ALA CYS ASP GLN ASN
ASN SER ILE MET VAL GLU CYS LEU LEU LEU LEU LEU GLY ALA ASP ALA ASN GLN ALA LYS GLU GLY SER SER LEU ILE CYS GLN VAL CYS GLU LYS GLU SER SER PRO LYS LEU VAL GLU LEU LEU LEU ASN SER GLY SER ARG GLU GLN GLN ASP VAL ALA LYS ILE ALA LEU THR ILE SER ILE GLY
LYS GLY ASP SER GLN ILE ILE SER LEU LEU LEU LEU ARG ARG LEU ALA LEU ASP VAL ALA ASN ASN SER ILE CYS LEU GLY GLY PHE CYS ILE GLY LYS VAL GLU PRO SER TRP LEU GLY PRO LEU PHE PRO ASP LYS THR SER ASN LEU ARG LYS GLN THR ASN ILE LEU ALA ILE SER ALA LEU ALA
ARG MET VAL ILE ARG TYR GLN MET LYS SER ALA VAL GLU GLU GLY THR ALA SER GLY SER ASP GLY ASN PHE SER GLU ASP VAL LEU LEU GLN ARG CYS SER PRO ASN LEU LEU GLN ARG HIS SER ILE LEU LEU SER LYS PHE ASP GLU TRP THR PHE ILE PRO ASP SER SER MET ASP SER VAL PHE ALA GLN SER ASP ASP LEU SER ASP SER GLU GLY GLU GLY
SER PHE LEU VAL LYS LYS LYS SER ASN SER ILE SER VAL GLY GLU PHE TYR ARG ASP ALA VAL LEU GLN ARG CYS SER PRO ASN LEU LEU GLN ARG HIS SER ASN SER LEU GLY PRO ILE PHE ASP HIS GLU ASP LEU LEU LYS ARG LYS ILE LEU LEU SER SER ASP ASP SER LEU ARG
SER SER LYS LEU GLN HIS HIS SER ASP SER ILE SER LEU ALA SER GLU GLU ARG GLU TYR ILE THR SER LEU ASP LEU SER LEU ALA SER GLN LYS CYS CYS ILE SER VAL HIS LEU GLU LEU HIS GLN
ASN ALA LEU THR SER PHE PRO GLN GLN CYS LEU GLU THR LEU LYS LEU ASP LEU HIS SER ASN LYS PHE THR SER PHE PRO SER TYR LEU LEU ASP VAL SER ARG ASN ASP ILE GLY PRO LEU ASP ALA
LYS CYS PRO THR LEU LYS GLN PHE ASN LEU GLU SER TYR ASN GLN GLU LEU SER PHE VAL PRO GLU ASN LEU THR ASP VAL VAL GLU LYS LEU GLU GLN LEU ILE LEU GLU GLU GLY ASN LYS ILE SER ILE CYS SER PRO LEU ARG LEU LYS LEU ILE LEU ASN LEU SER LYS ASN HIS
ILE SER SER LEU SER GLU ALA CYS PRO LYS VAL GLU SER PHE SER ALA ARG MET ASN PHE LEU ALA ALA MET PRO PHE LEU PRO PRO SER MET THR ILE LEU LYS LEU SER GLN ASN LYS PHE SER CYS ILE LEU ASN GLY PRO LEU ILE LEU SER LYS PHE ASP ASN PRO LEU ARG SER
LEU ASP MET SER SER ASN ASP ILE GLN TYR LEU PRO GLY PRO ALA HIS TRP LYS SER LEU ASN LEU ARG GLU LEU LEU PHE SER HIS ASN GLN ILE SER LEU GLU LEU ASP LEU ARG SER PHE PRO ASN GLU MET GLY LYS LEU SER LYS ILE TRP ASP LEU PRO LEU ASP GLU LEU TYR SER ARG VAL GLU LYS LEU HIS ILE GLY CYS LYS ALA LYS ASP ILE ILE ARG
PHE LEU GLN GLN ARG LEU THR ILE PRO ILE SER GLN ILE ALA PRO ASP GLN PRO ARG LEU THR ILE LEU ALA ASP LEU PRO ARG ASN ILE MET LEU ASN ASN ASP LEU GLU LEU PHE GLU GLN ALA PRO HIS CYS
GLU ASN SER GLU I1690 R1725 A1726 N1730 R1731 M1732 R1735 G1837 ASP LEU LEU VAL ASN PRO ASP GLN PRO ARG LEU THR ILE PRO ILE SER GLN ILE ALA PRO ASP LEU LEU ALA ASP LEU PRO ARG ASN ILE MET LEU ASN ASN ASP LEU GLU LEU PHE GLU GLN ALA PRO
PHE LEU GLN GLN ARG LEU LYS LYS ALA VAL PRO Y1332 A1498 R1514 ASP GLN LEU VAL VAL GLY GLN LEU ILE P1524 E1566 E1578 D1587 P1588 E1616 G1617 C1618 P1619 K1620 H1621 P1622 K1623 V1669 PRO SER SER LEU SER ASP HIS ARG PRO VAL ILE GLU LEU PRO HIS CYS



• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

Chain 29-B: 40% 59%





• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

Chain 30-A: 40% • 59%

GLN TYR PRO GLU ASN ALA ALA LEU GLN ILE SER ALA LEU SER CYS LEU ALA LEU LEU THR GLU THR ILE PHE LEU ASN GLN ASP LEU GLU GLU LYS ASN GLU ASN GLN GLU ASN ASP ASP GLU GLY GLU GLU ASP LYS LEU PHE TRP LEU GLU ALA CYS TYR LYS ALA LEU THR TRP HIS

ARG LYS ASN LYS HIS VAL GLN GLU ALA ALA CYS TRP ALA LEU ASN ASN LEU LEU MET TYR GLN ASN SER LEU HIS GLU LYS ILE GLY ASP GLU ASP GLY HIS PHE PRO ALA HIS ARG GLU VAL MET LEU SER MET LEU MET HIS SER SER SER LYS GLU VAL PHE GLN ALA SER ALA ASN

ALA LEU SER THR LEU LEU GLU GLN ASN VAL ASN PHE ARG LYS ILE LEU LEU SER LYS GLY ILE HIS LEU ASN VAL LEU GLU LEU MET GLN LYS HIS ILE HIS SER PRO GLU VAL ALA GLU SER GLY CYS LYS MET LEU ASN HIS LEU PHE GLU GLY SER ASN THR SER LEU ASP ILE MET

ALA ALA VAL VAL PRO LYS ILE LEU THR VAL MET LYS ARG HIS GLU THR SER LEU PRO VAL GLN LEU GLU ALA LEU ARG ALA ILE LEU HIS PHE ILE VAL PRO GLY MET PRO GLU GLU SER ARG GLU ASP THR GLU PHE HIS HIS LYS LEU ASN MET VAL LYS LYS GLN CYS PHE LYS ASN

ASP ILE HIS LYS LEU VAL LEU ALA ALA LEU ASN ARG PHE ILE GLY ASN PRO GLY ILE GLN LYS CYS GLY LEU LYS VAL ILE SER SER ILE VAL HIS PHE PRO ASP ALA LEU GLU MET LEU SER LEU GLU GLY ALA MET ASP SER VAL LEU HIS THR LEU GLN MET TYR PRO ASP ASP GLN

GLU ILE GLN CYS LEU GLY LEU SER LEU ILE GLY TYR LEU ILE THR LYS LYS ASN VAL PHE ILE GLY THR GLY HIS LEU LEU ALA LYS ILE LEU VAL SER SER LEU TYR ARG PHE LYS ASP VAL ALA GLU ILE GLN THR LYS GLY PHE GLN THR ILE LEU ALA ILE LEU LYS LEU SER ALA

SER PHE SER LYS LEU LEU VAL HIS HIS SER PHE ASP LEU VAL ILE PHE HIS GLN MET SER SER ASN ILE MET GLU GLN LYS ASP GLN GLN PHE LEU ASN LEU CYS CYS LYS CYS PHE ALA LYS VAL ALA MET ASP ASP TYR LEU LYS ASN VAL MET LEU GLU ARG ALA CYS ASP GLN ASN

ASN SER ILE MET VAL GLU CYS LEU LEU LEU LEU GLY ALA ASP ALA ASN GLN ALA LYS GLU GLY SER SER LEU ILE CYS GLN VAL CYS GLU LYS GLU SER SER PRO LYS LEU VAL GLU LEU LEU LEU ASN SER GLY SER ARG GLU GLN ASP VAL ARG LYS ALA LEU THR ILE SER ILE GLY

LYS GLY ASP SER GLN ILE ILE SER LEU LEU LEU ARG ARG LEU ALA LEU ASP VAL ALA ASN ASN SER ILE CYS LEU GLY GLY PHE CYS ILE GLY LYS VAL GLU PRO SER TRP LEU GLY PRO LEU PHE PRO ASP LYS THR SER ASN LEU ARG LYS GLN THR ASN ILE ALA SER THR LEU ALA

ARG MET VAL ILE ARG TYR GLN MET LYS SER ALA VAL GLU GLU GLY THR ALA SER GLY SER ASP GLY ASN PHE SER GLU ASP VAL LEU SER LYS PHE ASP GLU TRP THR PHE ILE PRO ASP SER SER MET ASP SER VAL PHE ALA GLN SER ASP ASP LEU ASP SER GLU GLY SER GLU GLY

SER PHE LEU VAL LYS LYS LYS SER ASN SER ILE SER VAL GLY GLU PHE TYR ARG ASP ALA VAL LEU GLN ARG CYS SER PRO ASN LEU GLN ARG HIS SER ASN SER LEU GLY PRO ILE PHE ASP HIS GLU ASP LEU LEU LYS ARG LYS ARG LYS ILE LEU SER SER ASP ASP SER LEU ARG

SER SER LYS LEU GLN SER HIS MET ARG HIS SER ASP SER ILE SER SER LEU ALA SER GLU ARG GLU TYR ILE THR SER LEU ASP LEU SER ALA ASN GLU LEU ARG ASP ILE ASP ALA LEU SER GLN LYS CYS CYS ILE SER VAL HIS LEU GLU HIS LEU GLU LYS LEU GLU LEU HIS GLN

ASN ALA LEU THR SER PHE PRO GLN GLN LEU CYS GLU THR LEU LYS SER LEU THR HIS LEU ASP LEU HIS SER ASN LYS PHE THR SER PHE PRO SER TYR LEU LEU LYS MET SER CYS ILE ALA ASN LEU ASP VAL SER ARG ASN ASP ILE GLY PRO SER VAL VAL LEU ASP PRO THR VAL

LYS CYS PRO THR LEU LYS GLN PHE ASN LEU SER TYR ASN GLN LEU SER PHE VAL PRO GLU ASN LEU THR ASP VAL VAL GLU LYS LEU GLU GLN LEU ILE LEU GLU GLY ASN LYS ILE SER GLY ILE CYS SER PRO LEU ARG LEU LYS GLU LEU LYS ILE LEU ASN LEU SER LYS ASN HIS

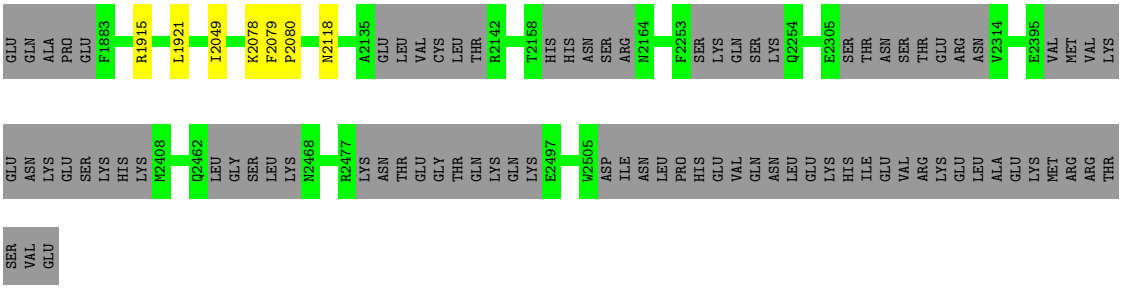
ILE SER SER LEU SER GLU ASN PHE LEU GLU ALA CYS PRO LYS VAL GLU SER PHE SER ALA ARG MET ASN PHE LEU ALA ALA MET PRO PHE LEU PRO PRO SER MET THR ILE LEU LYS LEU SER GLN ASN LYS PHE SER CYS ILE PRO GLU ALA ILE LEU ASN LEU PRO HIS LEU ARG SER

LEU ASP MET SER SER ASN ASP ILE GLN TYR LEU PRO GLY PRO ALA HIS TRP LYS SER LEU ASN LEU ARG GLU LEU LEU PHE SER HIS ASN GLN ILE SER ILE LEU ASP LEU SER GLU LYS ALA TYR LEU TRP SER ARG VAL GLU LYS LEU HIS LEU SER HIS ASN LYS LEU LYS GLU ILE

PRO PRO GLU ILE GLY CYS LEU GLU ASN LEU THR SER LEU ASP VAL SER TYR ASN LEU GLU LEU ARG SER PHE PRO ASN GLU MET GLY LYS LEU SER LYS ILE TRP ASP LEU PRO LEU ASP GLU LEU HIS LEU ASN PHE ASP PHE LYS HIS ILE GLY CYS LYS ALA LYS ASP ILE ILE ARG

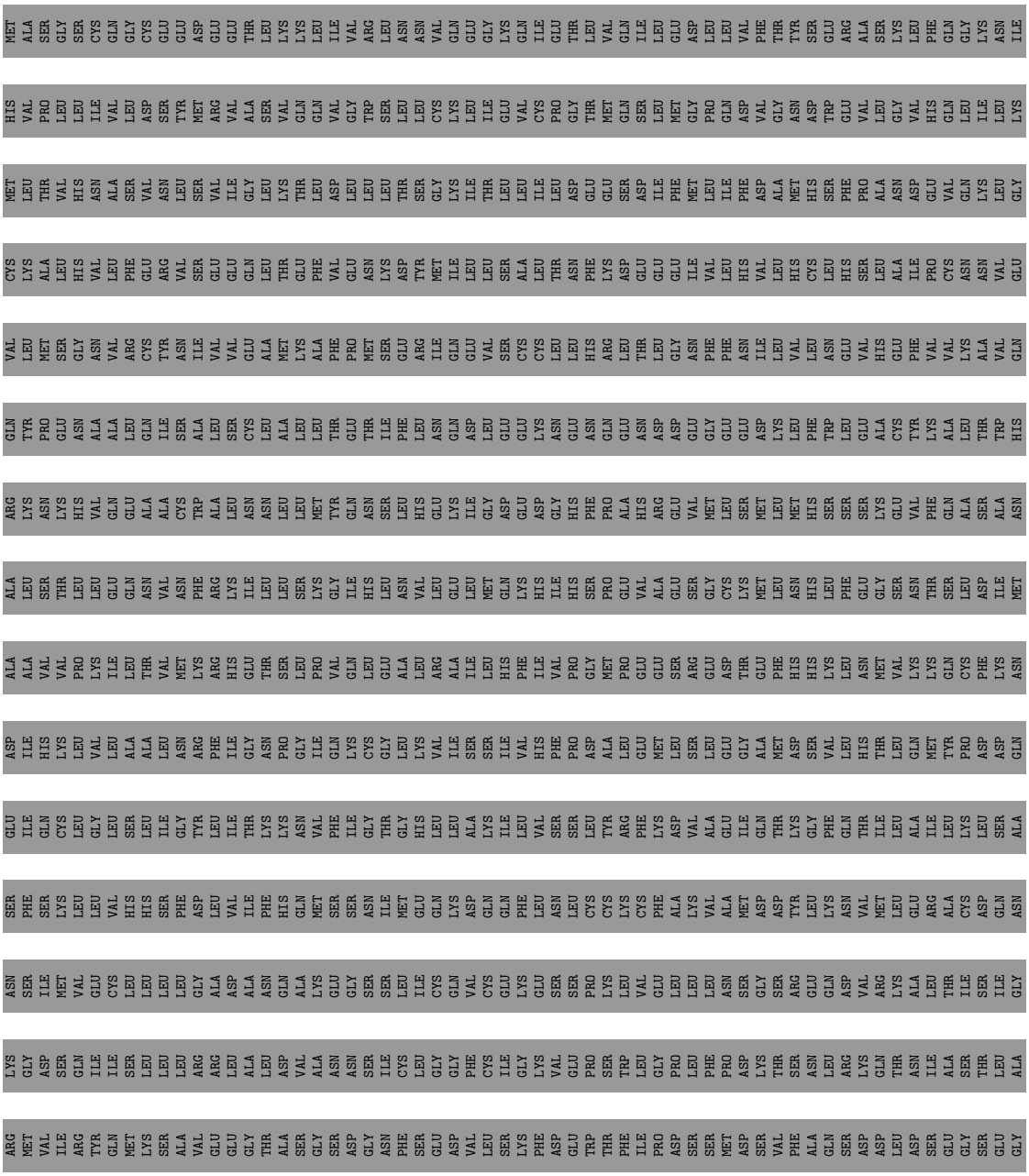
PHE LEU GLN GLN ARG LEU LYS LYS ALA VAL PRO Y1332 S1457 D1458 E1459 K1460 Q1461 R1462 K1463 A1464 C1465 M1466 R1514 ASP GLN LEU VAL VAL GLY GLN LEU ILE P1524 D1565 E1566 D1587 Q1591 V1669 PRO SER SER LEU SER ASP HIS ARG PRO VAL ILE GLU LEU PRO HIS CYS

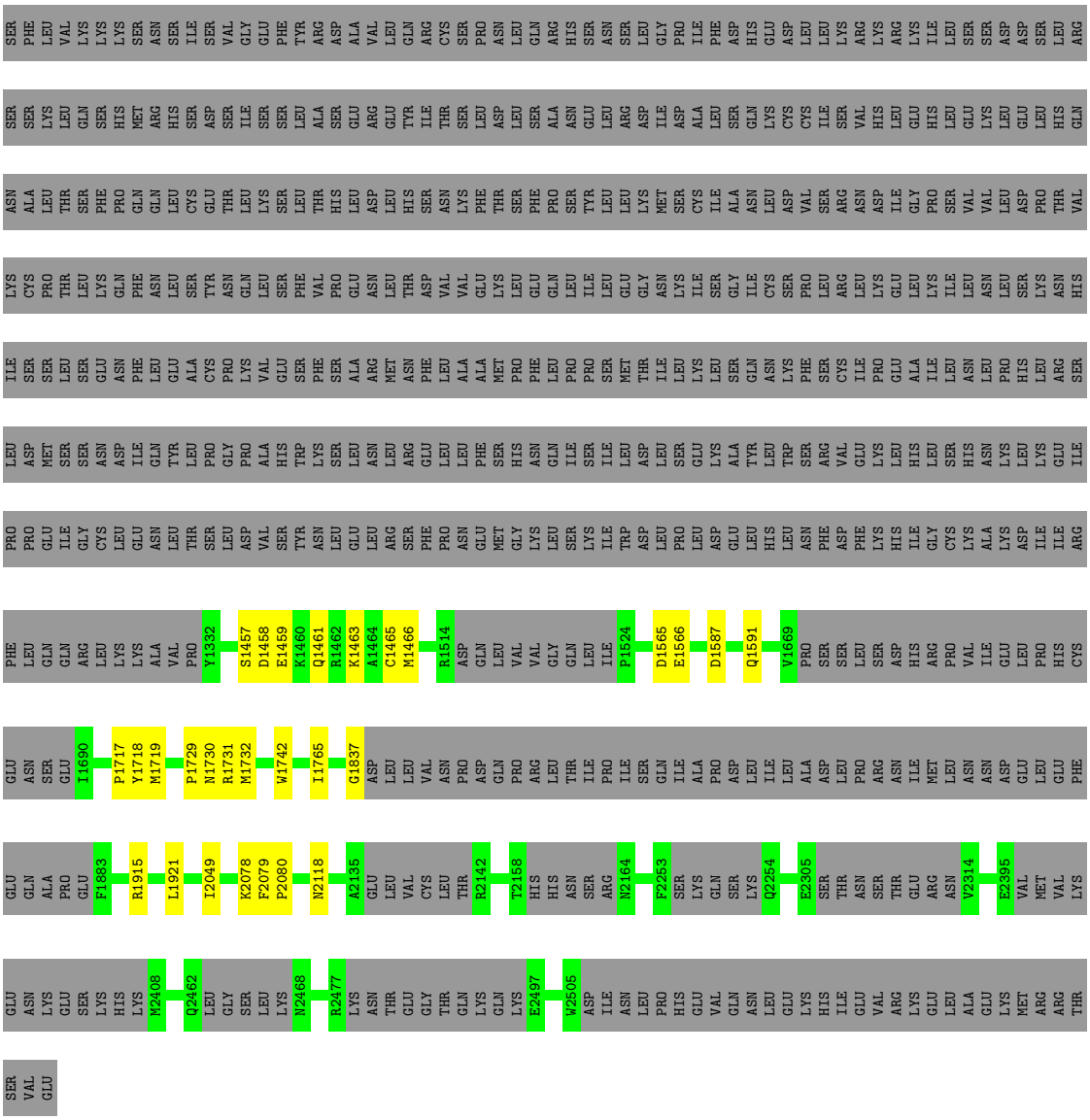
GLU ASN SER GLU I1690 P1717 Y1718 M1719 P1729 N1730 R1731 M1732 W1742 I1765 G1837 ASP LEU LEU VAL ASN PRO ASP GLN PRO ARG LEU THR ILE PRO ILE SER GLN ILE ALA PRO ASP LEU ILE LEU ALA ASP LEU PRO ARG ASN ILE MET LEU ASN ASN ASP GLU LEU GLU PHE



• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

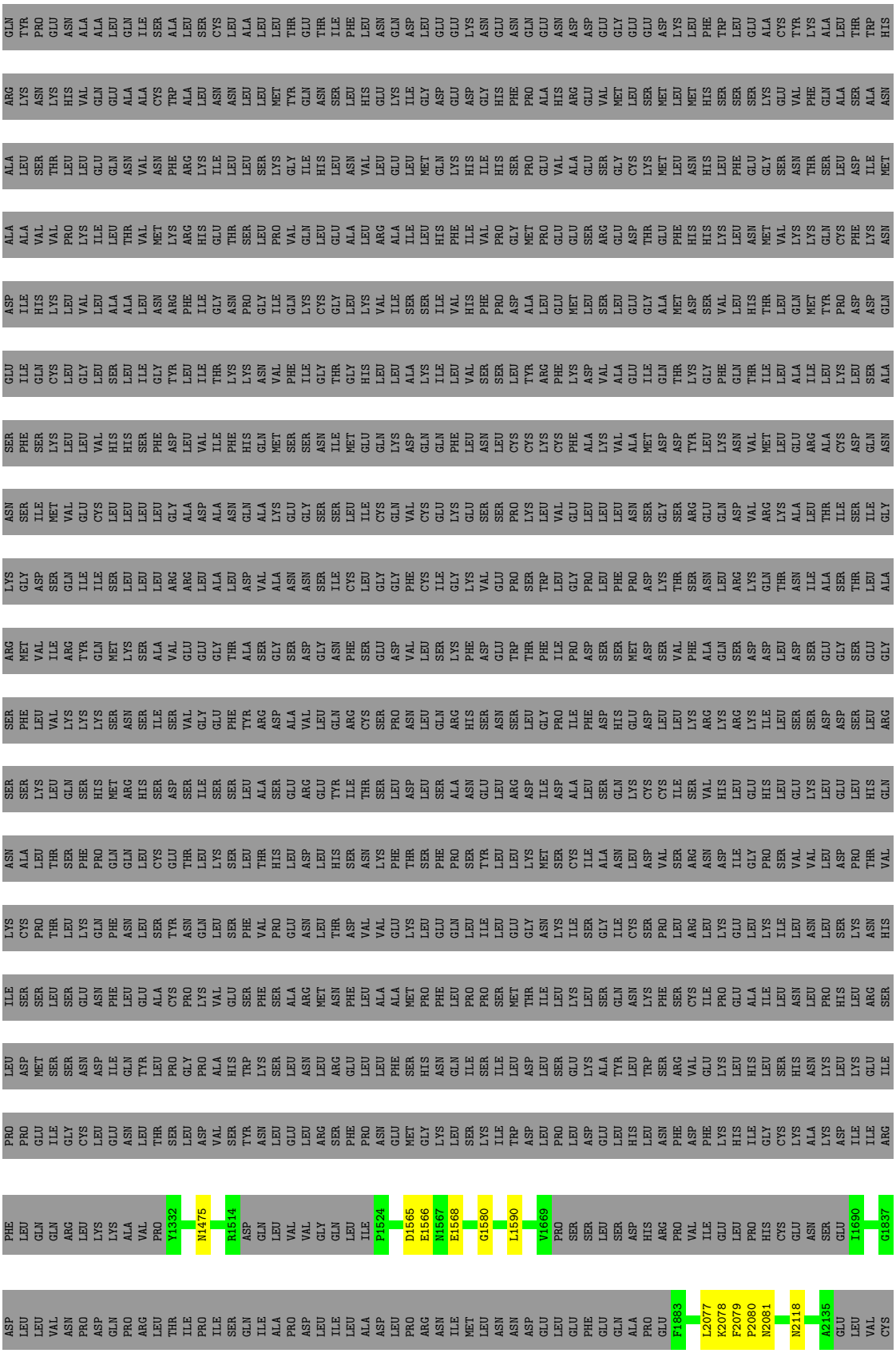
Chain 30-B:





• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

Chain 31-A: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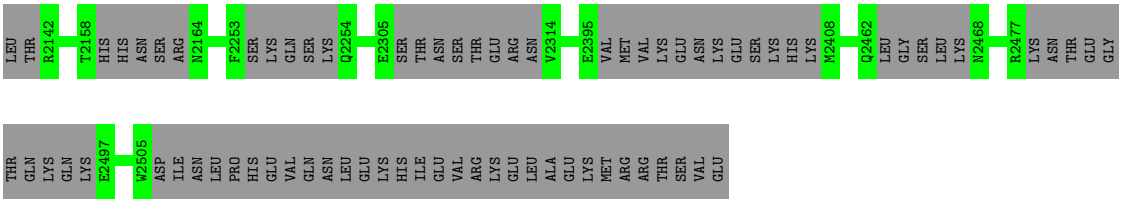
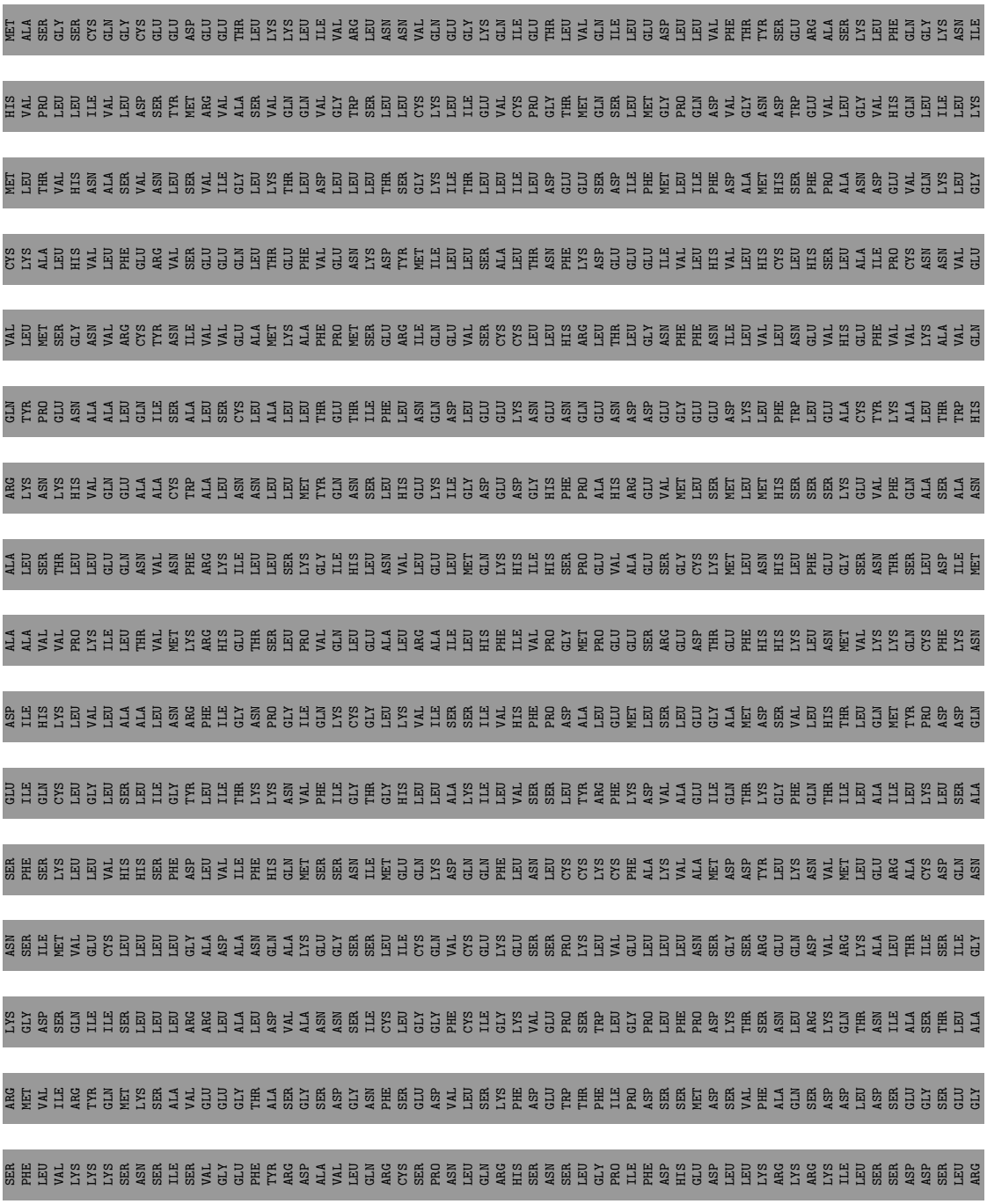
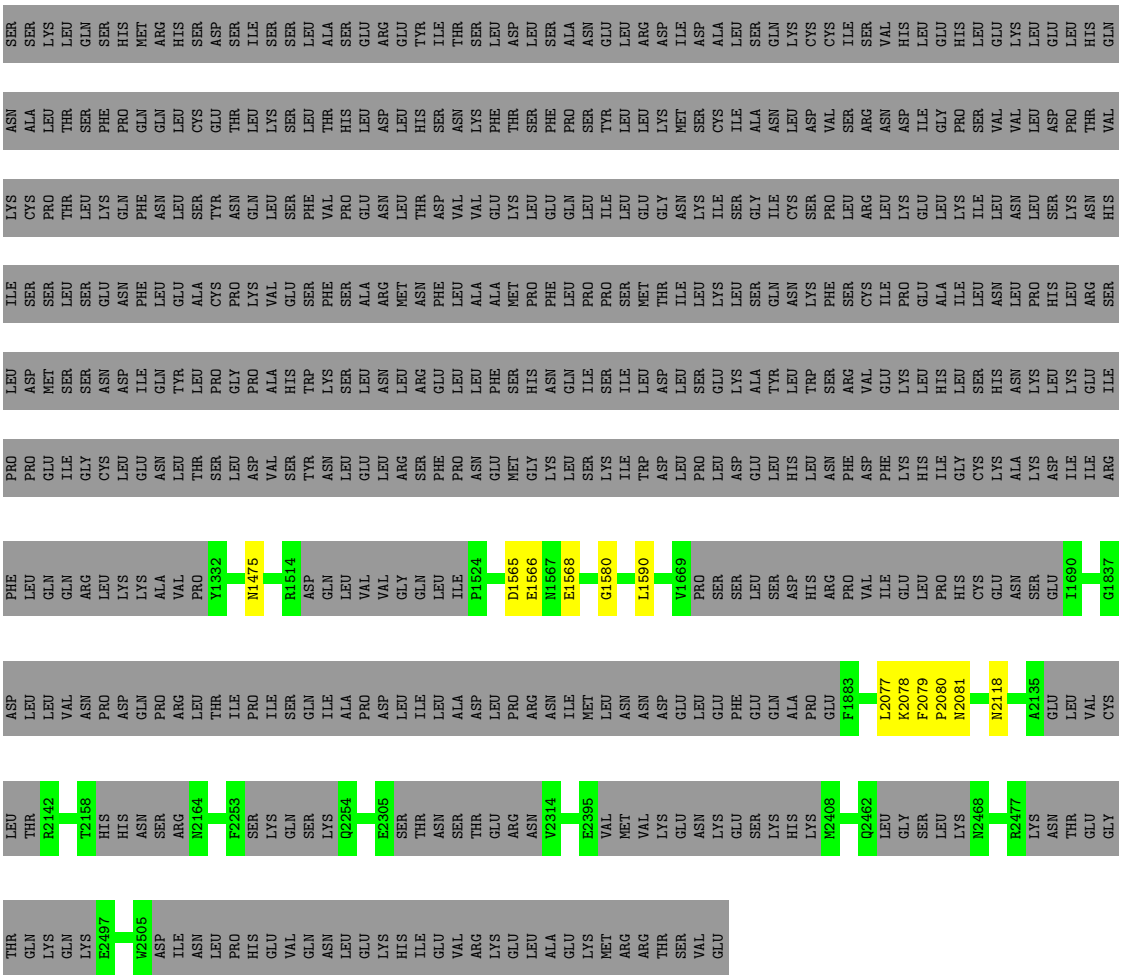


• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

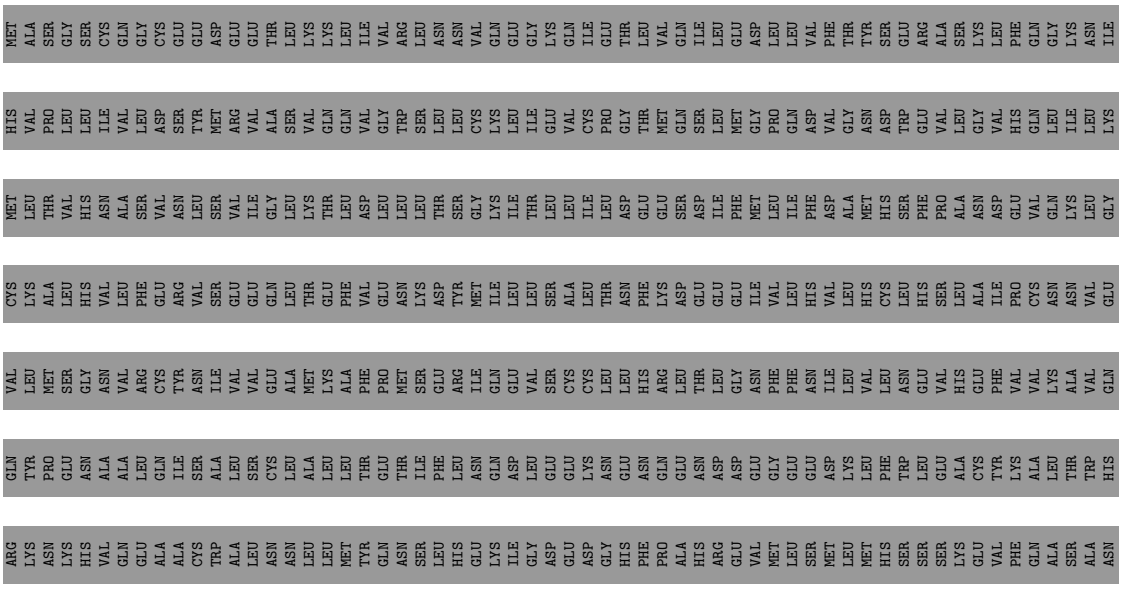
Chain 31-B:

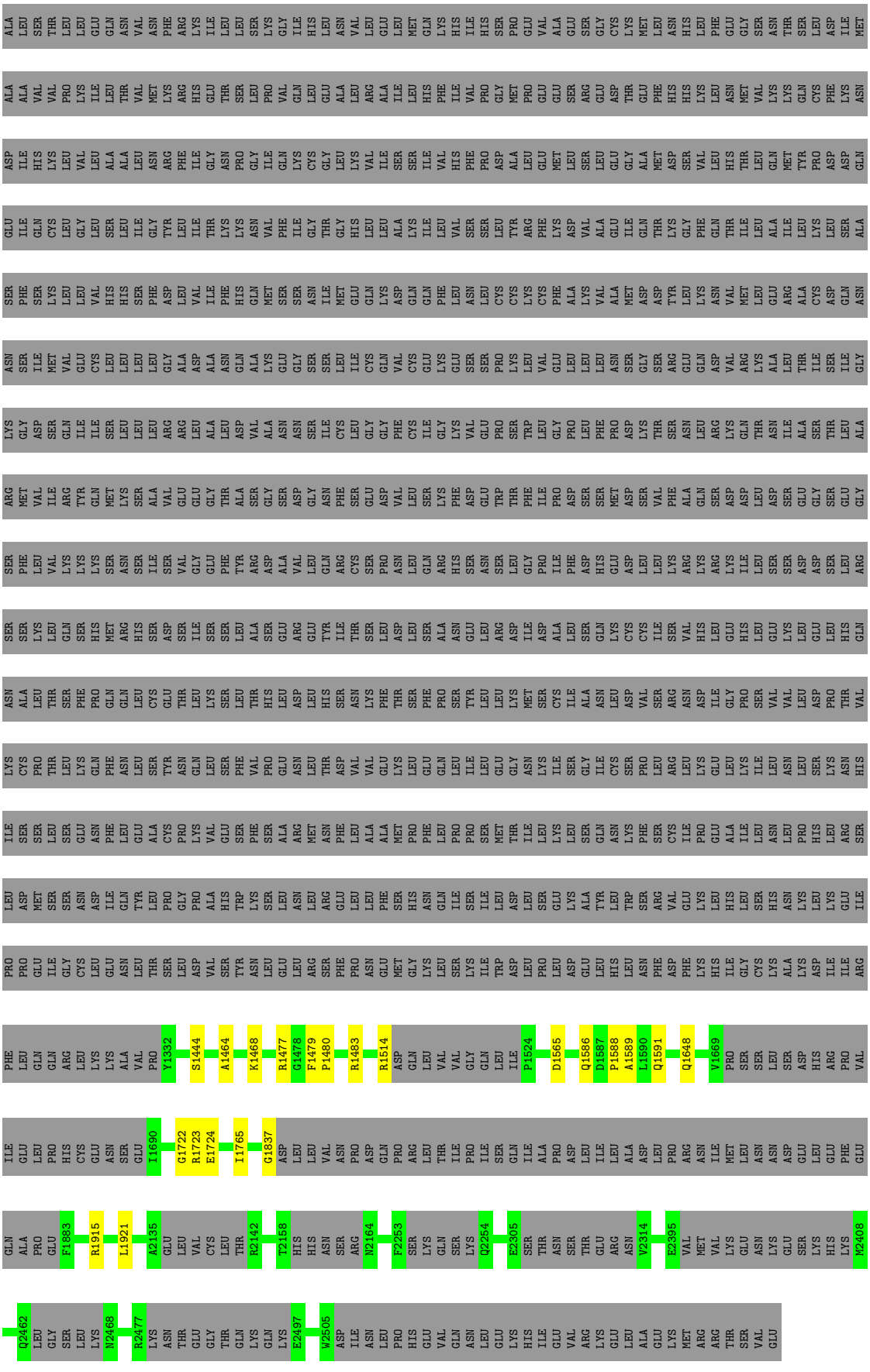




• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

Chain 32-A:

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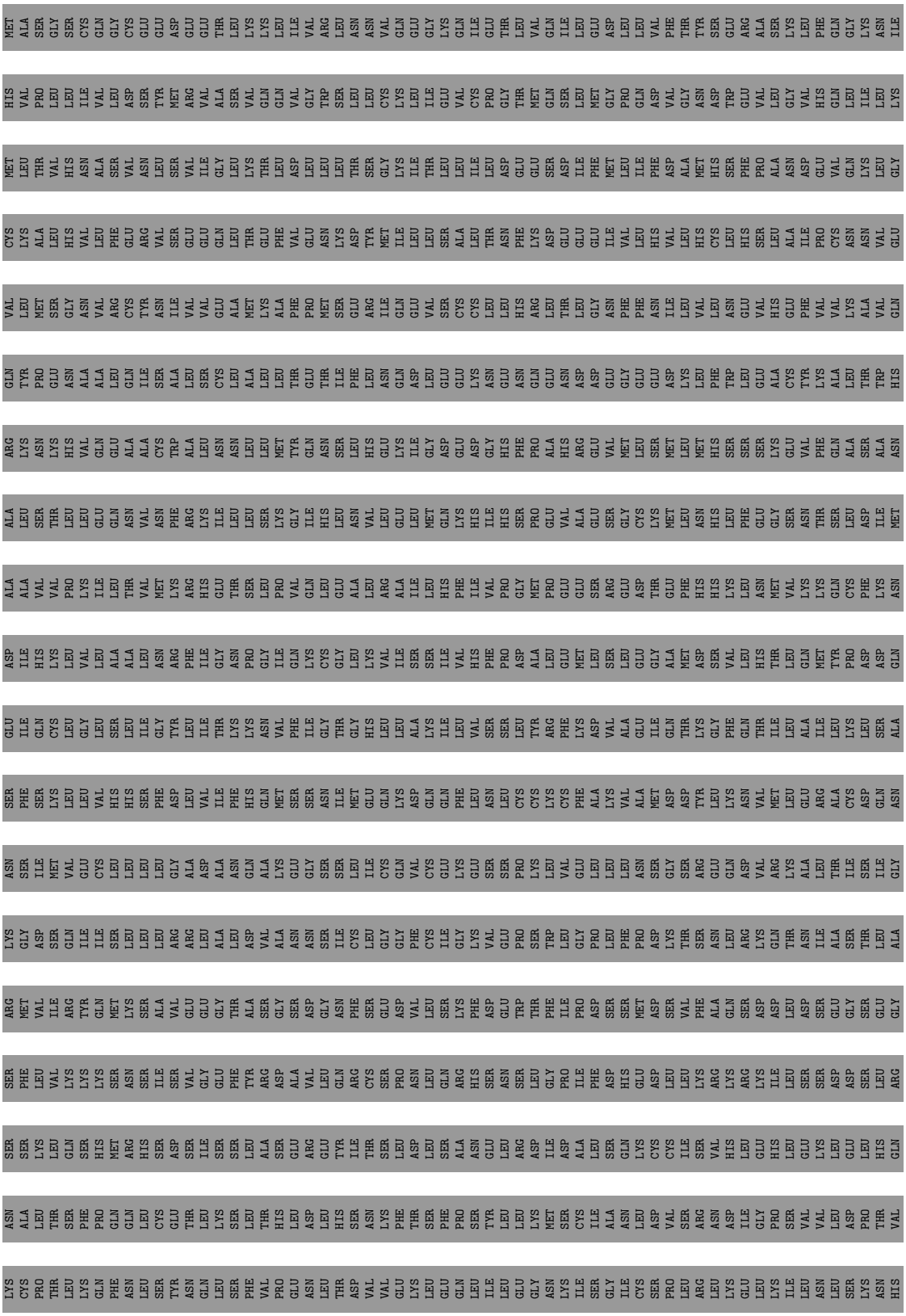
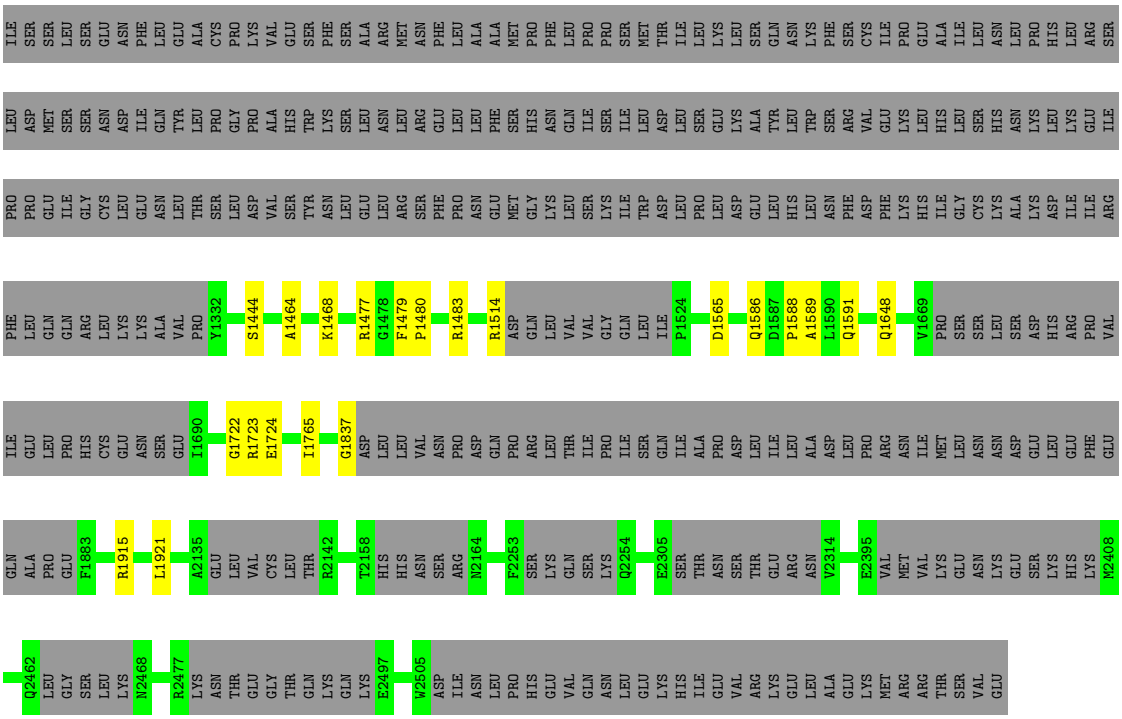
Q1586
D1587
P1588
A1589
L1590
Q1591
Q1648
V1669
I1690
G1722
R1723
E1724
I1765
G1837
F1883
R1915
L1921
A2135
R2142
T2158
R2253
N2164
Q2254
E2305
V2314
E2395
M2408
Q2462
N2468
R2477
E2497
W2505

• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

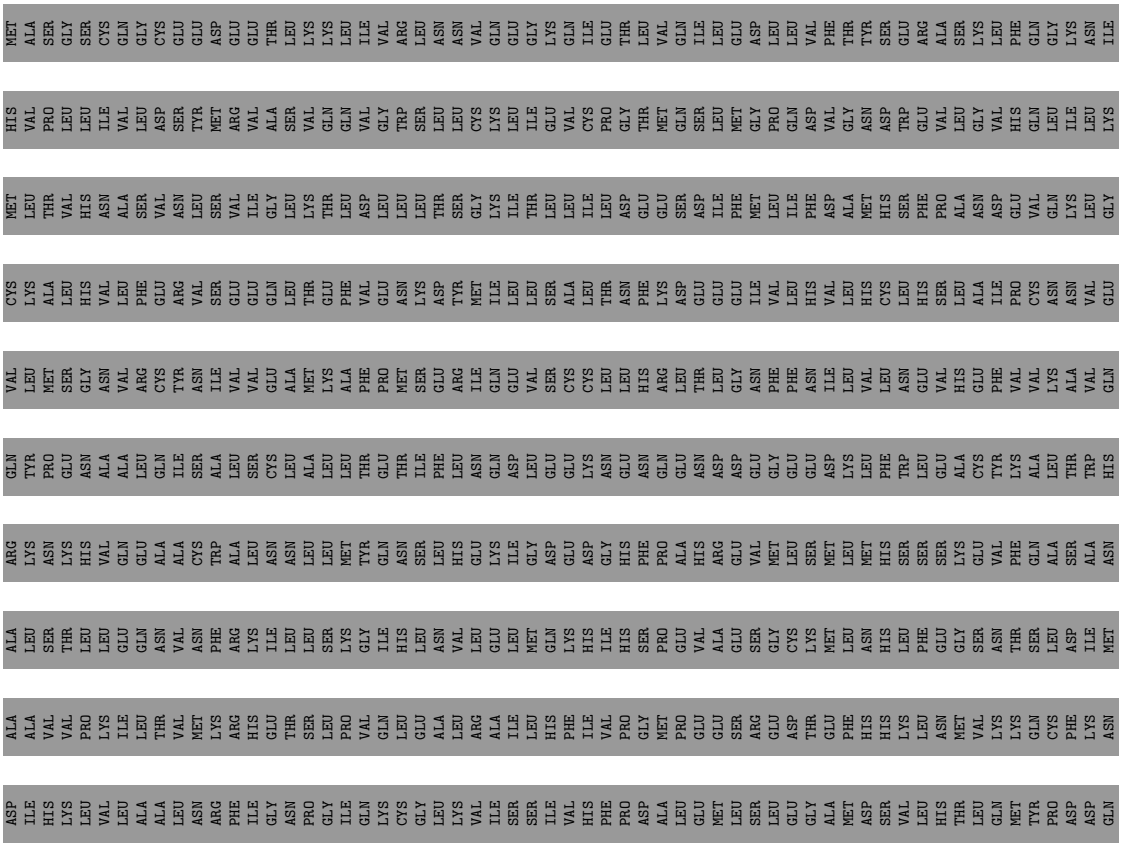
Chain 32-B: 40% 59%

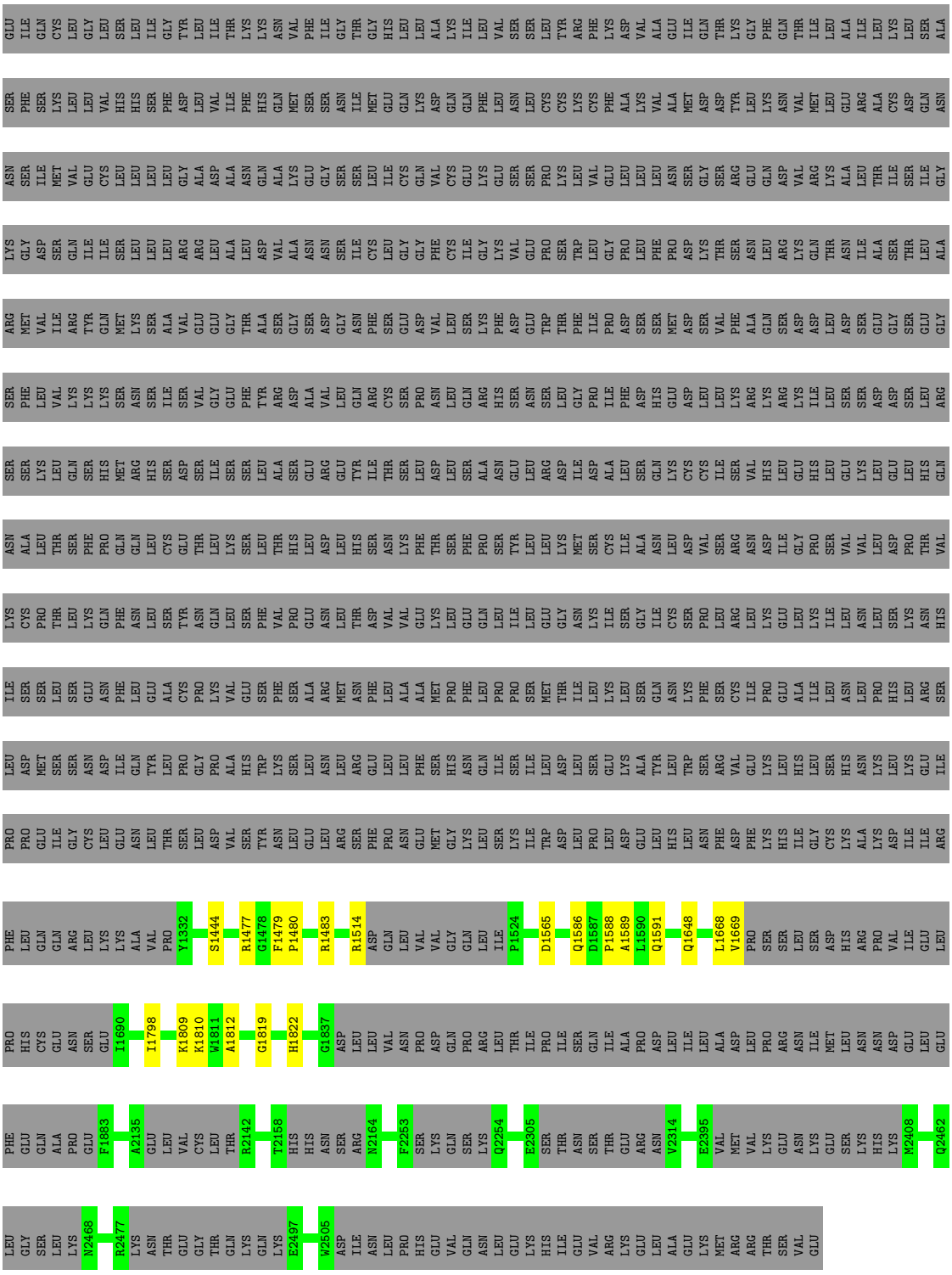




• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

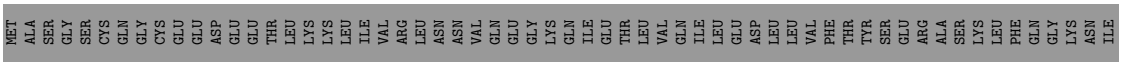
Chain 33-A:





• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

Chain 33-B:



HIS VAL PRO LEU LEU ILE VAL LEU ASP SER TYR MET ARG VAL ALA SER VAL GLN GLN VAL GLY TRP SER LEU LEU CYS LYS LEU ILE GLU VAL CYS PRO GLY THR MET GLN SER LEU MET GLY PRO GLN ASP VAL GLY ASN ASP TRP GLU VAL LEU GLY VAL HIS GLN LEU ILE LEU LYS

MET LEU THR VAL HIS ASN ALA SER VAL ASN LEU SER VAL ILE GLY LEU LYS THR LEU ASP LEU LEU THR SER GLY LYS ILE THR LEU LEU ILE LEU ASP GLU GLU SER ASP ILE PHE MET LEU ILE PHE ASP ALA MET HIS SER PHE PRO ALA ASN ASP GLU VAL GLN LYS LEU GLY

CYS LYS ALA LEU HIS VAL LEU PHE GLU ARG VAL SER GLU GLU GLN LEU THR GLU PHE VAL GLU ASN LYS ASP TYR MET ILE LEU LEU SER ALA LEU THR ASN PHE LYS ASP GLU GLU ILE VAL LEU HIS VAL LEU HIS CYS LEU HIS SER LEU ALA ILE PRO CYS ASN ASN VAL GLU

VAL LEU MET SER GLY ASN VAL ARG CYS TYR ASN ILE VAL VAL GLU ALA MET LYS ALA PHE PRO MET SER GLU ARG ILE GLN GLU VAL SER CYS CYS LEU LEU HIS ARG LEU THR LEU GLY ASN PHE PHE ASN ILE LEU VAL LEU ASN GLU VAL HIS GLU PHE VAL VAL LYS ALA VAL GLN

GLN TYR PRO GLU ASN ALA ALA LEU GLN ILE SER ALA LEU SER CYS LEU ALA LEU LEU THR GLU THR ILE PHE LEU ASN GLN ASP LEU GLU GLU LYS ASN GLU ASN GLN GLU ASN ASP ASP GLU GLY GLU GLU ASP LYS LEU PHE TRP LEU GLU ALA CYS TYR LYS ALA LEU THR TRP HIS

ARG LYS ASN LYS HIS VAL GLN GLU ALA ALA CYS TRP ALA LEU ASN ASN LEU LEU MET TYR GLN ASN SER LEU HIS GLU LYS ILE GLY ASP GLU ASP GLY HIS PHE PRO ALA HIS ARG GLU VAL MET LEU SER MET LEU MET HIS SER SER SER LYS GLU VAL PHE GLN ALA SER ALA ASN

ALA LEU SER THR LEU LEU GLU GLN ASN VAL ASN PHE ARG LYS ILE LEU LEU SER LYS GLY ILE HIS LEU ASN VAL LEU GLU LEU MET GLN LYS HIS ILE HIS SER PRO GLU VAL ALA GLU SER GLY CYS LYS MET LEU ASN HIS LEU PHE GLU GLY SER ASN THR SER LEU ASP ILE MET

ALA ALA VAL VAL PRO LYS ILE LEU THR VAL MET LYS ARG HIS GLU THR SER LEU PRO VAL GLN LEU GLU ALA LEU ARG ALA ILE LEU HIS PHE ILE VAL PRO GLY MET PRO GLU GLU SER ARG GLU ASP THR GLU PHE HIS HIS LYS LEU ASN MET VAL LYS LYS GLN CYS PHE LYS ASN

ASP ILE HIS LYS LEU VAL LEU ALA ALA LEU ASN ARG PHE ILE GLY ASN PRO GLY ILE GLN LYS CYS GLY LEU LYS VAL ILE SER SER ILE VAL HIS PHE PRO ASP ALA LEU GLU MET LEU SER LEU GLU GLY ALA MET ASP SER VAL LEU HIS THR LEU GLN MET TYR PRO ASP ASP GLN

GLU ILE GLN CYS LEU GLY LEU SER LEU ILE GLY TYR LEU ILE THR LYS LYS ASN VAL PHE ILE GLY THR GLY HIS LEU LEU ALA LYS ILE LEU VAL SER SER LEU TYR ARG PHE LYS ASP VAL ALA GLU ILE GLN THR LYS GLY PHE GLN THR ILE LEU ALA ILE LEU LYS LEU SER ALA

SER PHE SER LYS LEU LEU VAL HIS HIS SER PHE ASP LEU VAL ILE PHE HIS GLN MET SER SER ASN ILE MET GLU GLN LYS ASP GLN GLN PHE LEU ASN LEU CYS CYS LYS CYS PHE ALA LYS VAL ALA MET ASP ASP TYR LEU LYS ASN VAL MET LEU GLU ARG ALA CYS ASP GLN ASN

ASN SER ILE MET VAL GLU CYS LEU LEU LEU LEU GLY ALA ASP ALA ASN GLN ALA LYS GLU GLY SER SER LEU ILE CYS GLN VAL CYS GLU LYS GLU SER SER PRO LYS LEU VAL GLU LEU LEU LEU ASN SER GLY SER ARG GLU GLN ASP VAL ARG LYS ALA LEU THR ILE SER ILE GLY

LYS GLY ASP SER GLN ILE ILE SER LEU LEU LEU ARG ARG LEU ALA LEU ASP VAL ALA ASN ASN SER ILE CYS LEU GLY GLY PHE CYS ILE GLY LYS VAL GLU PRO SER TRP LEU GLY PRO LEU PHE PRO ASP LYS THR SER ASN LEU ARG LYS GLN THR ASN ILE ALA SER THR LEU ALA

ARG MET VAL ILE ARG TYR GLN MET LYS SER ALA VAL GLU GLU GLY THR ALA SER GLY SER ASP GLY ASN PHE SER GLU ASP VAL LEU SER LYS PHE ASP GLU TRP THR PHE ILE PRO ASP SER SER MET ASP SER VAL PHE ALA GLN SER ASP ASP LEU ASP SER GLU GLY SER GLU GLY

SER PHE LEU VAL LYS LYS LYS SER ASN SER ILE SER VAL GLY GLU PHE TYR ARG ASP ALA VAL LEU GLN ARG CYS SER PRO ASN LEU GLN ARG HIS SER ASN SER LEU GLY PRO ILE PHE ASP HIS GLU ASP LEU LEU LYS ARG LYS ARG LYS ILE LEU SER SER ASP ASP SER LEU ARG

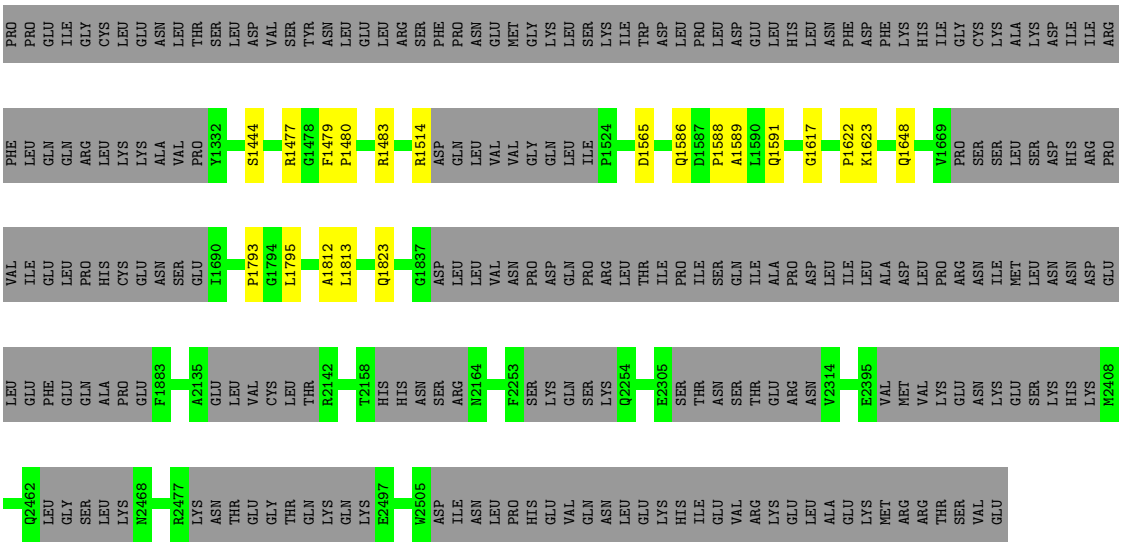
SER SER LYS LEU GLN SER HIS MET ARG HIS SER ASP SER ILE SER SER LEU ALA SER GLU ARG GLU TYR ILE THR SER LEU ASP LEU SER ALA ASN GLU LEU ARG ASP ILE ASP ALA LEU SER GLN LYS CYS CYS ILE SER VAL HIS LEU GLU HIS LEU GLU LYS LEU GLU LEU HIS GLN

ASN ALA LEU THR SER PHE PRO GLN GLN LEU CYS GLU THR LEU LYS SER LEU THR HIS LEU ASP LEU HIS SER ASN LYS PHE THR SER PHE PRO SER TYR LEU LEU LYS MET SER CYS ILE ALA ASN LEU ASP VAL SER ARG ASN ASP ILE GLY PRO SER VAL VAL LEU ASP PRO THR VAL

LYS CYS PRO THR LEU LYS GLN PHE ASN LEU SER TYR ASN GLN LEU SER PHE VAL PRO GLU ASN LEU THR ASP VAL VAL GLU LYS LEU GLU GLN LEU ILE LEU GLU GLY ASN LYS ILE SER GLY ILE CYS SER PRO LEU ARG LEU LYS GLU LEU LYS ILE LEU ASN LEU SER LYS ASN HIS

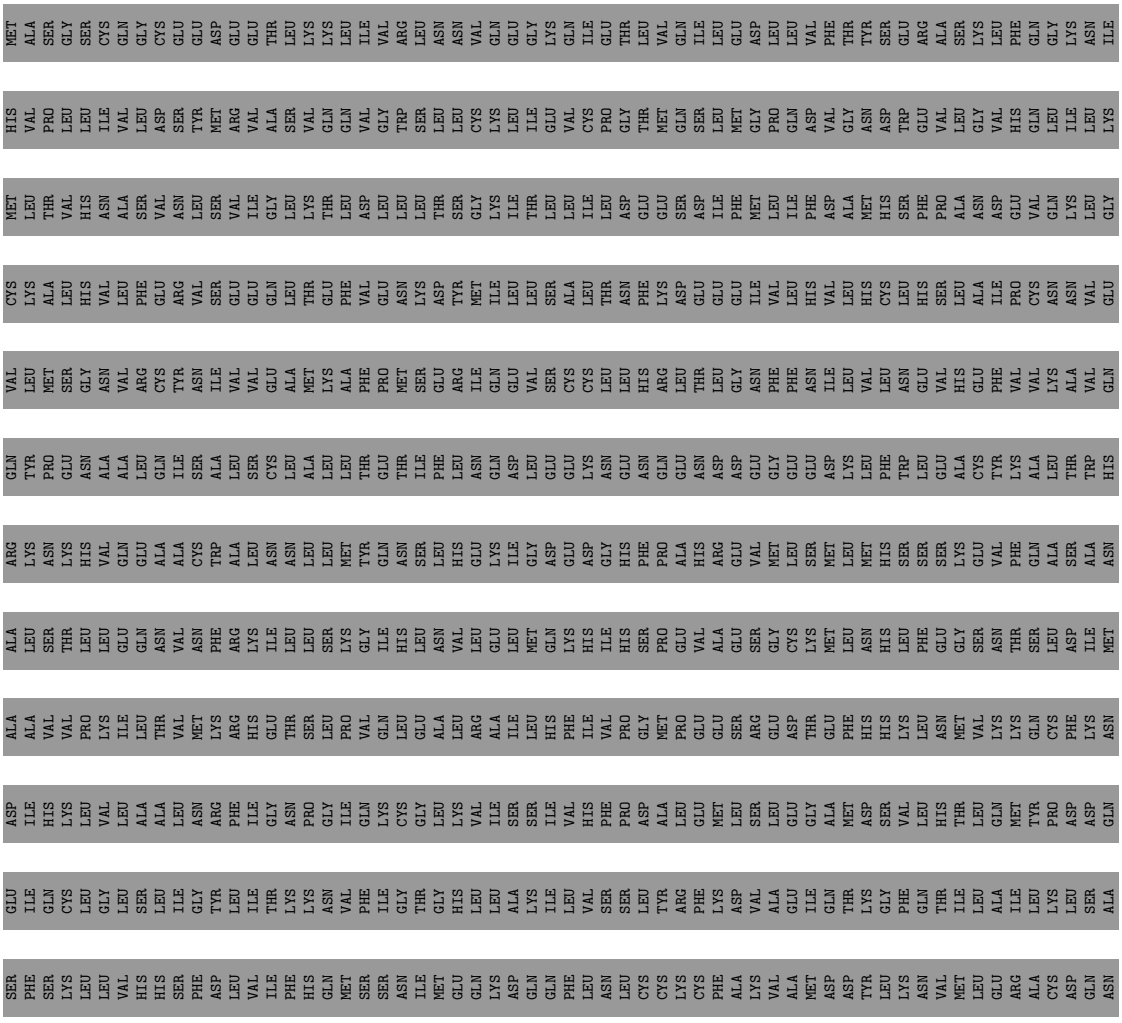
ILE SER SER LEU SER GLU ASN PHE LEU GLU ALA CYS PRO LYS VAL GLU SER PHE SER ALA ARG MET ASN PHE LEU ALA ALA MET PRO PHE LEU PRO PRO SER MET THR ILE LEU LYS LEU SER GLN ASN LYS PHE SER CYS ILE PRO GLU ALA ILE LEU ASN LEU PRO HIS LEU ARG SER

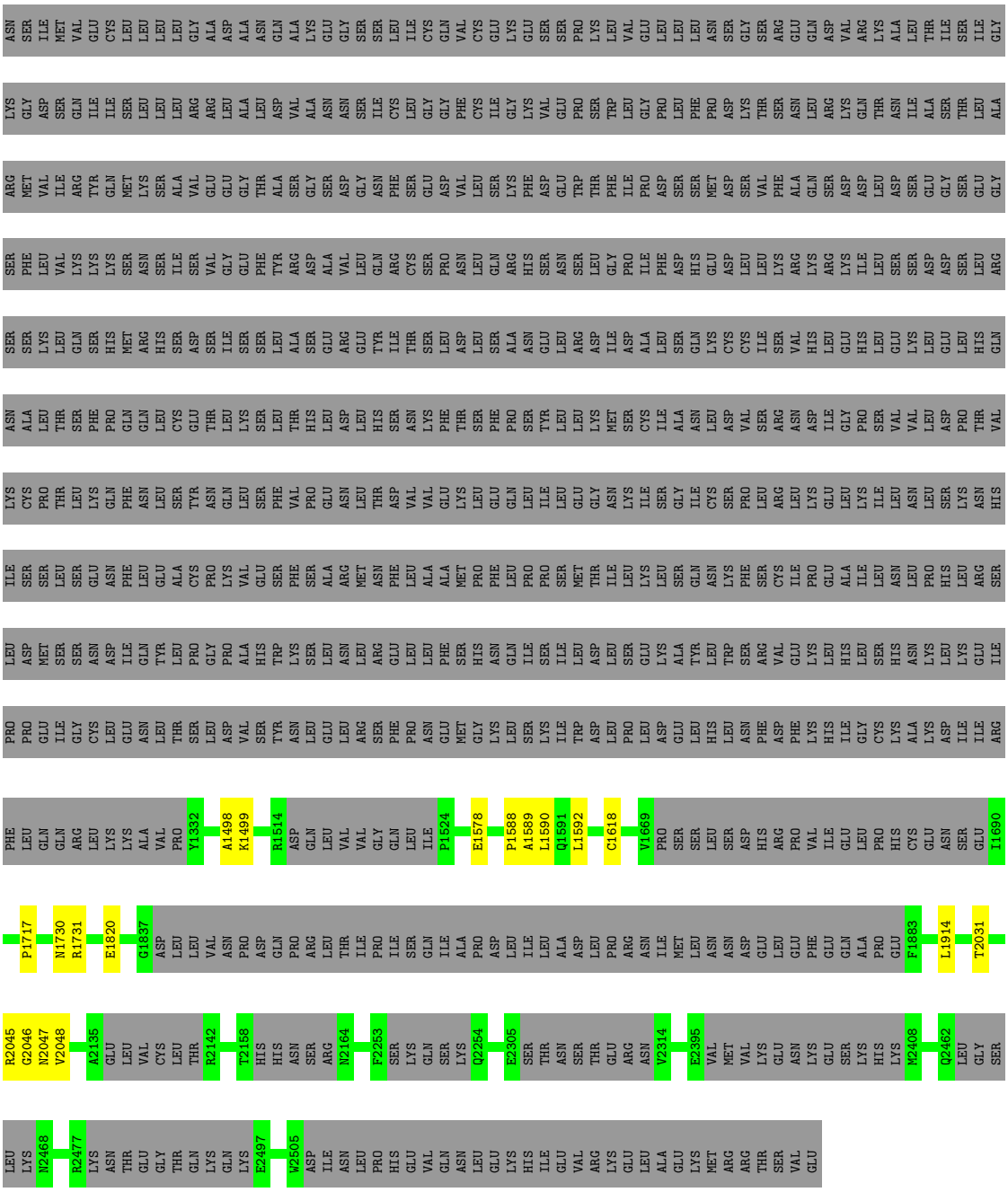
LEU ASP MET SER SER ASN ASP ILE GLN TYR LEU PRO GLY PRO ALA HIS TRP LYS SER LEU ASN LEU ARG GLU LEU LEU PHE SER HIS ASN GLN ILE SER ILE LEU ASP LEU SER GLU LYS ALA TYR LEU TRP SER ARG VAL GLU LYS LEU HIS LEU SER HIS ASN LYS LEU LYS GLU ILE



• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

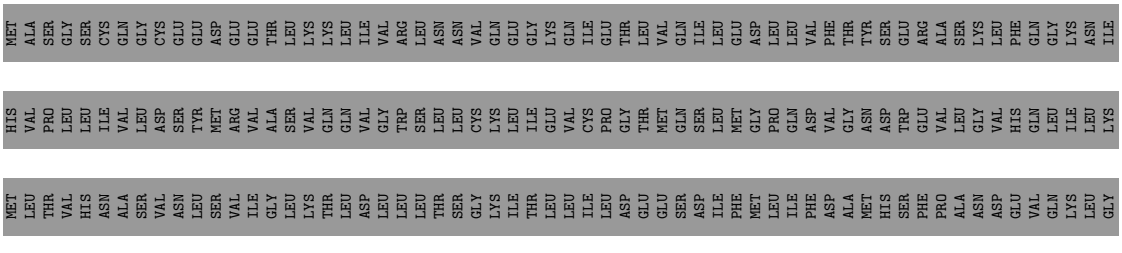
Chain 34-A: 40% 59%

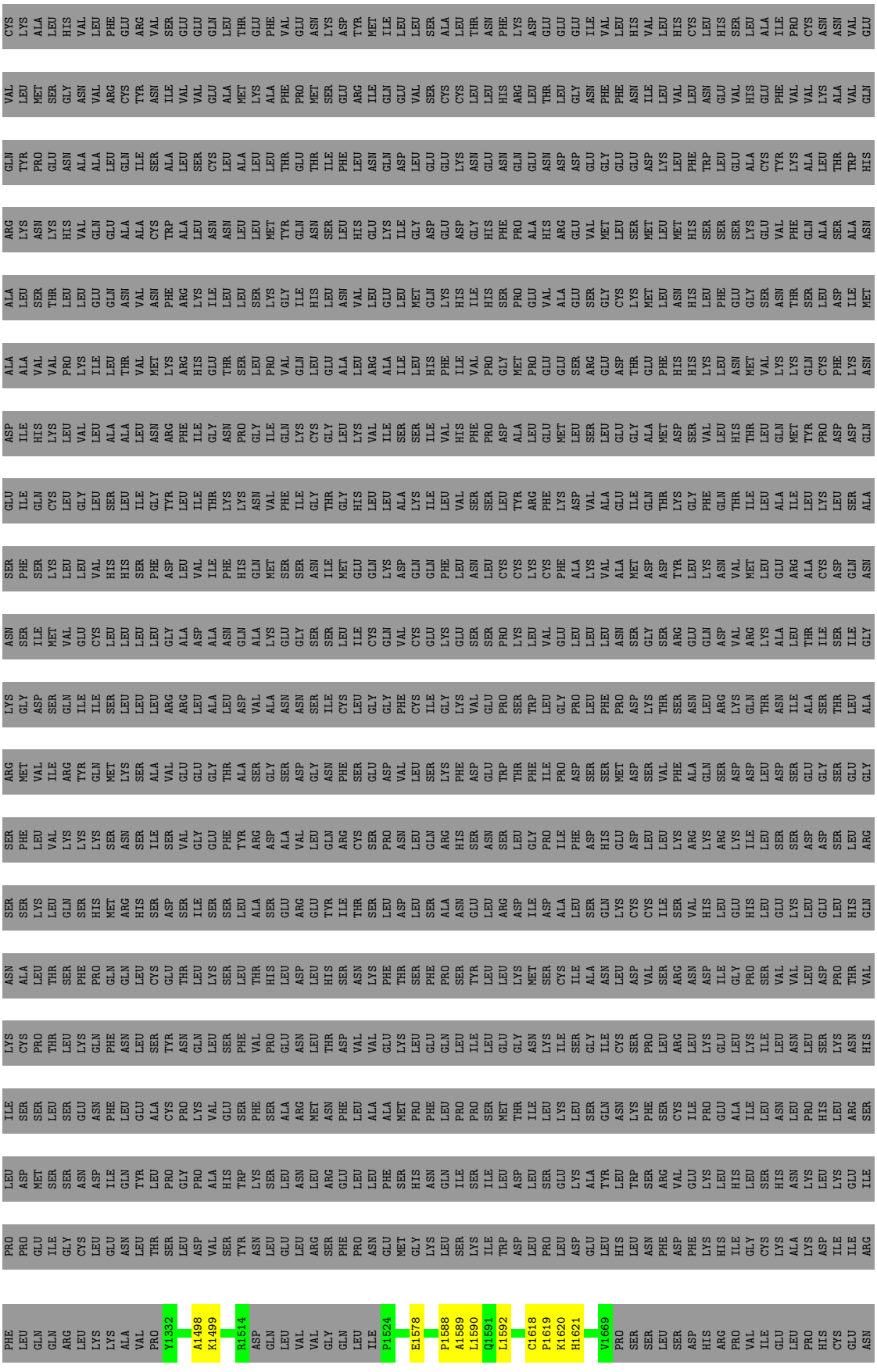




• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

Chain 34-B:

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K1499
R1514
P1524
E1578
P1588
A1589
L1590
Q1591
L1592
C1618
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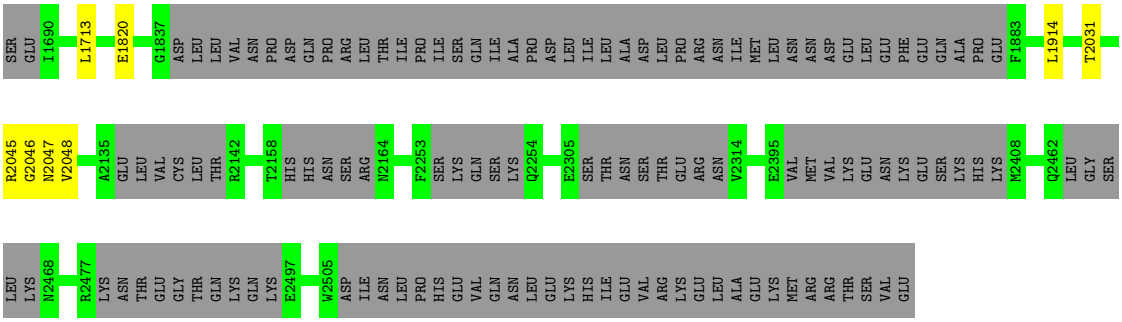
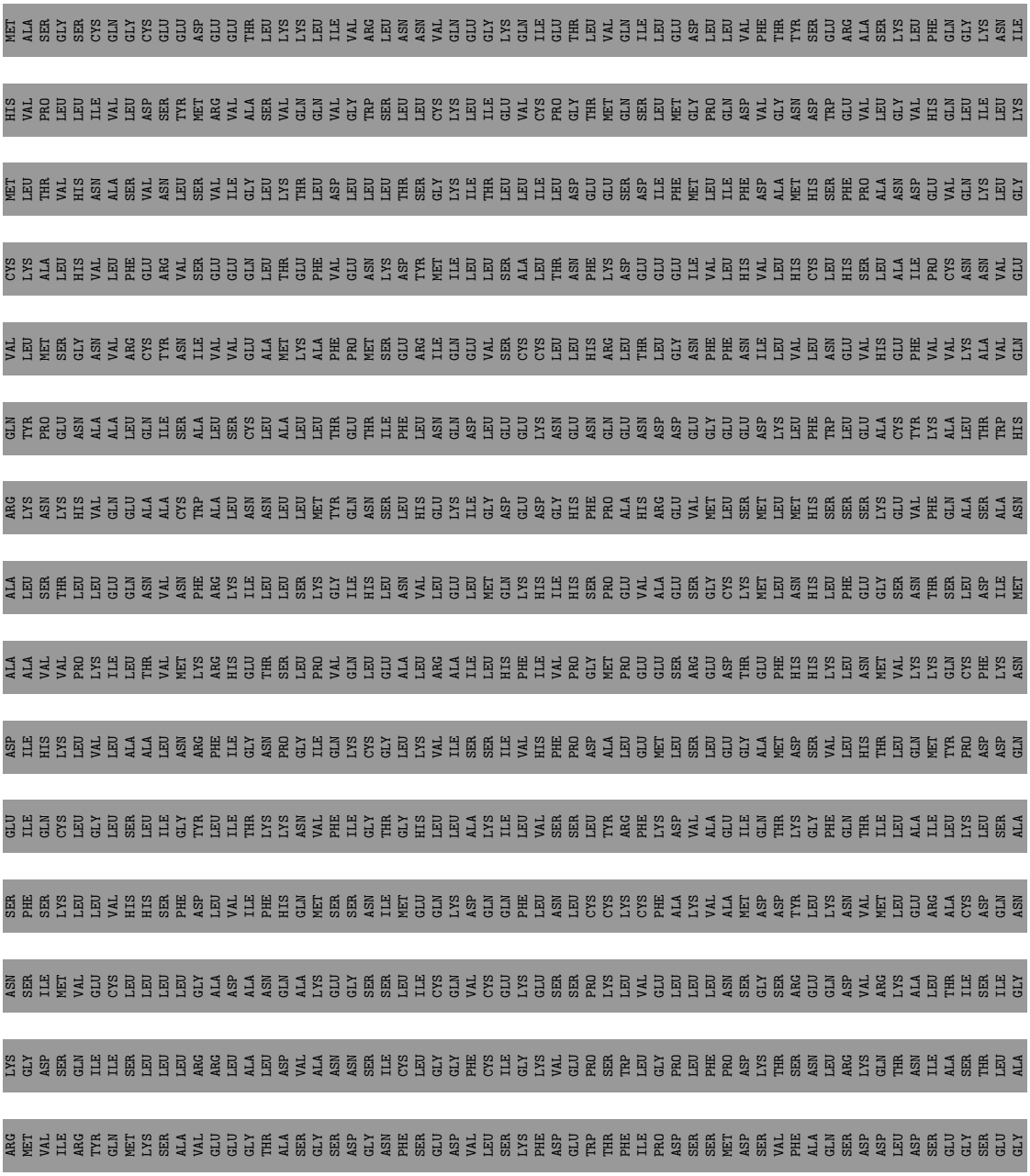
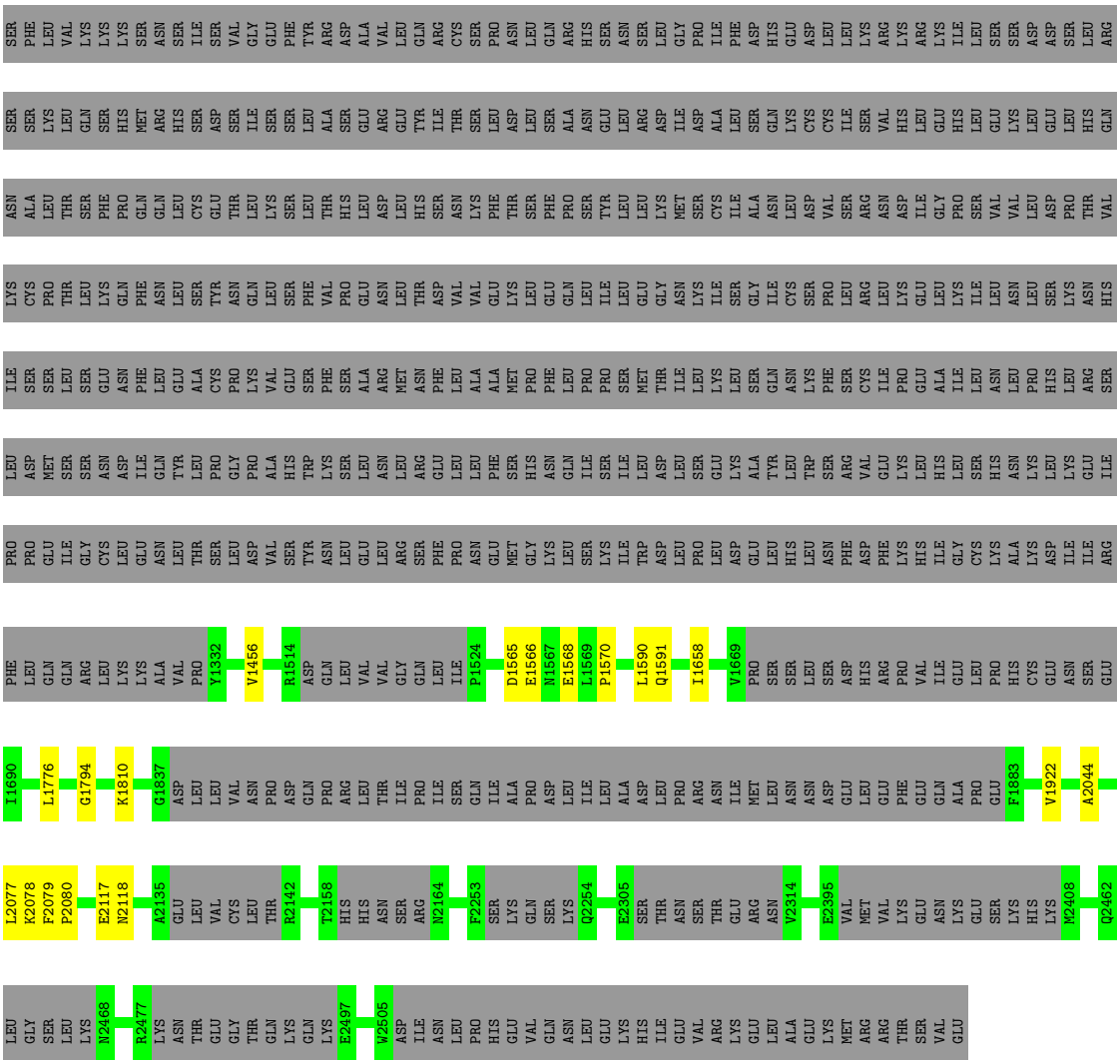


• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

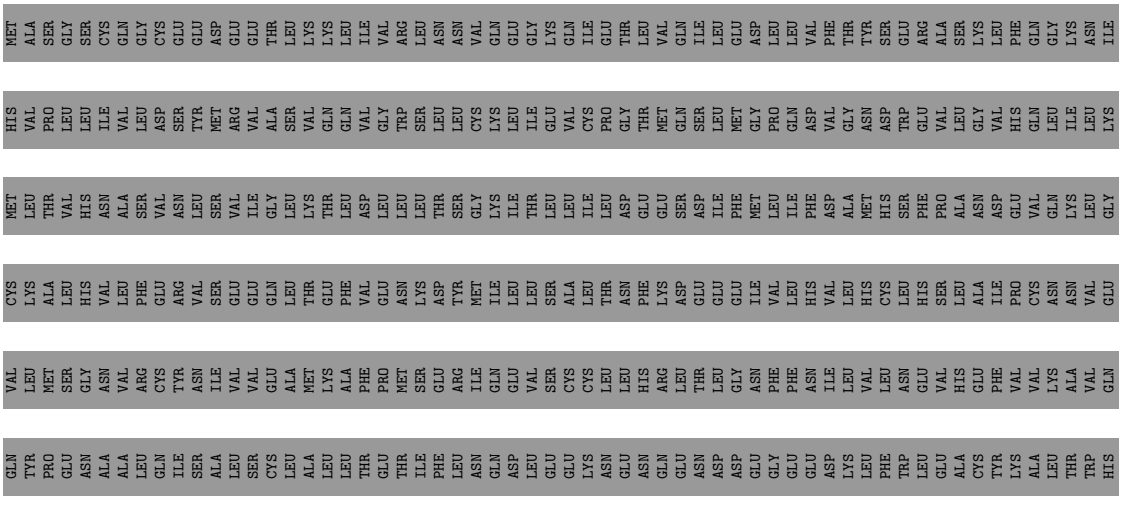
Chain 35-A: 40% 59%





• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

Chain 35-B:



ARG LYS ASN LYS HIS VAL GLN GLU ALA ALA CYS TRP ALA LEU ASN ASN LEU LEU MET TYR GLN ASN SER LEU HIS GLU LYS ILE GLY ASP GLU ASP GLY HIS PHE PRO ALA HIS ARG GLU VAL MET LEU SER MET LEU MET HIS SER SER SER LYS GLU VAL PHE GLN ALA SER ALA ASN

ALA LEU SER THR LEU LEU GLU GLN ASN VAL ASN PHE ARG LYS ILE LEU LEU SER LYS GLY ILE HIS LEU ASN VAL LEU GLU LEU MET GLN LYS HIS ILE HIS SER PRO GLU VAL ALA GLU SER GLY CYS LYS MET LEU ASN HIS LEU PHE GLU GLY SER ASN THR SER LEU ASP ILE MET

ALA ALA VAL VAL PRO LYS ILE LEU THR VAL MET LYS ARG HIS GLU THR SER LEU PRO VAL GLN LEU GLU ALA LEU ARG ALA ILE LEU HIS PHE ILE VAL PRO GLY MET PRO GLU GLU SER ARG GLU ASP THR GLU PHE HIS HIS LYS LEU ASN MET VAL LYS LYS GLN CYS PHE LYS ASN

ASP ILE HIS LYS LEU VAL LEU ALA ALA LEU ASN ARG PHE ILE GLY ASN PRO GLY ILE GLN LYS CYS GLY LEU LYS VAL ILE SER SER ILE VAL HIS PHE PRO ASP ALA LEU GLU MET LEU SER LEU GLU GLY ALA MET ASP SER VAL LEU HIS THR LEU GLN MET TYR PRO ASP ASP GLN

GLU ILE GLN CYS LEU GLY LEU SER LEU ILE GLY TYR LEU ILE THR LYS LYS ASN VAL PHE ILE GLY THR GLY HIS LEU LEU ALA LYS ILE LEU VAL SER SER LEU TYR ARG PHE LYS ASP VAL ALA GLU ILE GLN THR LYS GLY PHE GLN THR ILE LEU ALA ILE LEU LYS LEU SER ALA

SER PHE SER LYS LEU LEU VAL HIS HIS SER PHE ASP LEU VAL ILE PHE HIS GLN MET SER SER ASN ILE MET GLU GLN LYS ASP GLN GLN PHE LEU ASN LEU CYS CYS LYS CYS PHE ALA LYS VAL ALA MET ASP ASP TYR LEU LYS ASN VAL MET LEU GLU ARG ALA CYS ASP GLN ASN

ASN SER ILE MET VAL GLU CYS LEU LEU LEU LEU GLY ALA ASP ALA ASN GLN ALA LYS GLU GLY SER SER LEU ILE CYS GLN VAL CYS GLU LYS GLU SER SER PRO LYS LEU VAL GLU LEU LEU LEU ASN SER GLY SER ARG GLU GLN ASP VAL ARG LYS ALA LEU THR ILE SER ILE GLY

LYS GLY ASP SER GLN ILE ILE SER LEU LEU LEU ARG ARG LEU ALA LEU ASP VAL ALA ASN ASN SER ILE CYS LEU GLY GLY PHE CYS ILE GLY LYS VAL GLU PRO SER TRP LEU GLY PRO LEU PHE PRO ASP LYS THR SER ASN LEU ARG LYS GLN THR ASN ILE ALA SER THR LEU ALA

ARG MET VAL ILE ARG TYR GLN MET LYS SER ALA VAL GLU GLU GLY THR ALA SER GLY SER ASP GLY ASN PHE SER GLU ASP VAL LEU SER LYS PHE ASP GLU TRP THR PHE ILE PRO ASP SER SER MET ASP SER VAL PHE ALA GLN SER ASP ASP LEU ASP SER GLU GLY SER GLU GLY

SER PHE LEU VAL LYS LYS LYS SER ASN SER ILE SER VAL GLY GLU PHE TYR ARG ASP ALA VAL LEU GLN ARG CYS SER PRO ASN LEU GLN ARG HIS SER ASN SER LEU GLY PRO ILE PHE ASP HIS GLU ASP LEU LEU LYS ARG LYS ARG LYS ILE LEU SER SER ASP ASP SER LEU ARG

SER SER LYS LEU GLN SER HIS MET ARG HIS SER ASP SER ILE SER SER LEU ALA SER GLU ARG GLU TYR ILE THR SER LEU ASP LEU SER ALA ASN GLU LEU ARG ASP ILE ASP ALA LEU SER GLN LYS CYS CYS ILE SER VAL HIS LEU GLU HIS LEU GLU LYS LEU GLU LEU HIS GLN

ASN ALA LEU THR SER PHE PRO GLN GLN LEU CYS GLU THR LEU LYS SER LEU THR HIS LEU ASP LEU HIS SER ASN LYS PHE THR SER PHE PRO SER TYR LEU LEU LYS MET SER CYS ILE ALA ASN LEU ASP ASP VAL SER ARG ASN ASP ILE GLY PRO SER VAL VAL LEU ASP PRO THR VAL

LYS CYS PRO THR LEU LYS GLN PHE ASN LEU SER TYR ASN GLN LEU SER PHE VAL PRO GLU ASN LEU THR ASP VAL VAL GLU LYS LEU GLU GLN LEU ILE LEU GLU GLY ASN LYS ILE SER GLY ILE CYS SER PRO LEU ARG LEU LYS GLU LEU LYS ILE LEU ASN LEU SER LYS ASN HIS

ILE SER SER LEU SER GLU ASN PHE LEU GLU ALA CYS PRO LYS VAL GLU SER PHE SER ALA ARG MET ASN PHE LEU ALA ALA MET PRO PHE LEU PRO PRO SER MET THR ILE LEU LYS LEU SER GLN ASN LYS PHE SER CYS ILE PRO GLU ALA ILE LEU ASN LEU PRO HIS LEU ARG SER

LEU ASP MET SER SER ASN ASP ILE GLN TYR LEU PRO GLY PRO ALA HIS TRP LYS SER LEU ASN LEU ARG GLU LEU LEU PHE SER HIS ASN GLN ILE SER ILE LEU ASP LEU SER GLU LYS ALA TYR LEU TRP SER ARG VAL GLU LYS LEU HIS LEU SER HIS ASN LYS LEU LYS GLU ILE

PRO PRO GLU ILE GLY CYS LEU GLU ASN LEU THR SER LEU ASP VAL SER TYR ASN LEU GLU LEU ARG SER PHE PRO ASN GLU MET GLY LYS LEU SER LYS ILE TRP ASP LEU PRO LEU ASP GLU LEU HIS LEU ASN PHE ASP PHE LYS HIS ILE GLY CYS LYS ALA LYS ASP ILE ILE ARG

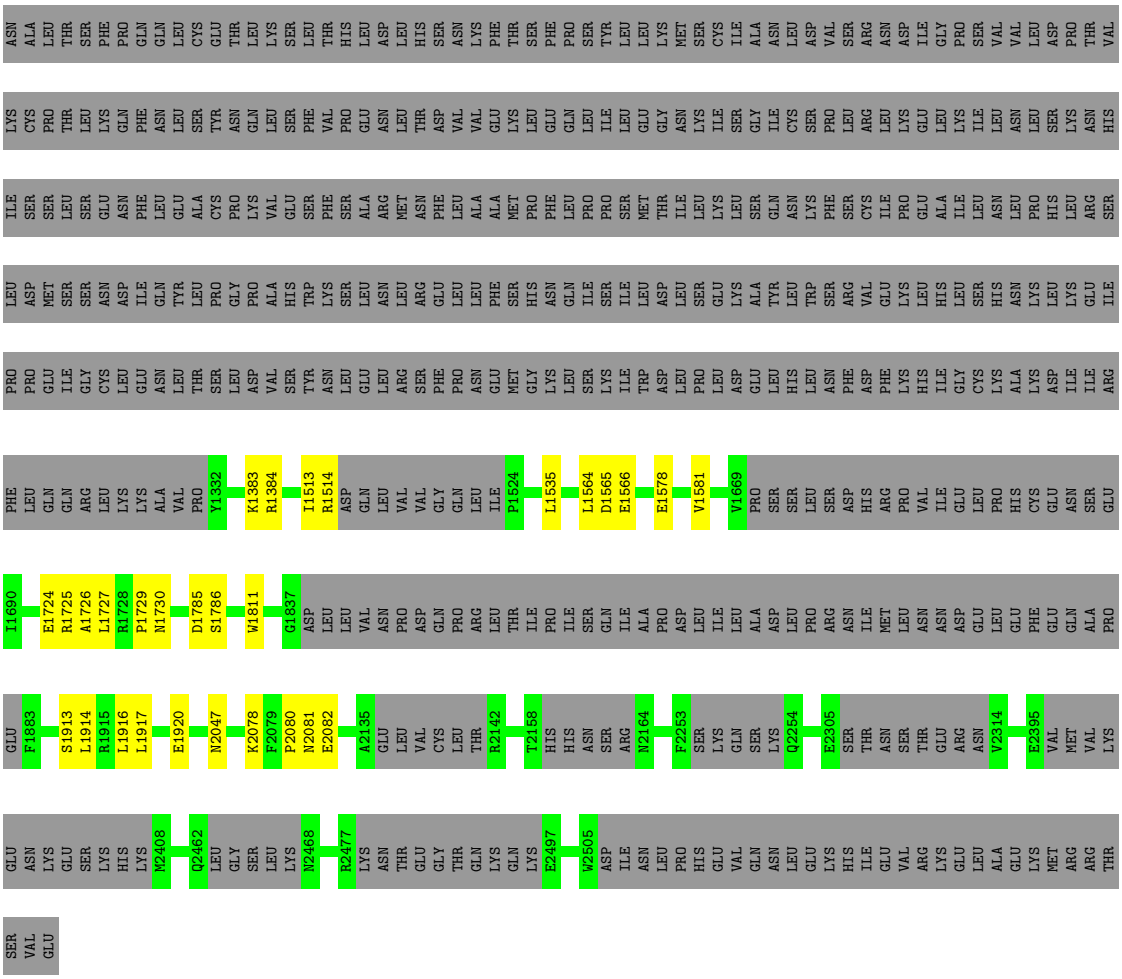
PHE LEU GLN GLN ARG LEU LYS LYS ALA VAL PRO Y1332 R1514 ASP GLN LEU VAL VAL GLY GLN LEU ILE P1524 D1565 E1566 N1567 E1568 L1569 P1570 L1590 Q1591 I1658 V1669 PRO SER SER LEU SER ASP HIS ARG PRO VAL ILE GLU LEU PRO HIS CYS GLU ASN SER GLU I1690

L1776 L1795 L1796 K1810 Q1823 G1837 ASP LEU LEU VAL ASN PRO ASP GLN PRO ARG LEU THR ILE PRO ILE SER GLN ILE ALA PRO ASP LEU ILE LEU ALA ASP LEU PRO ARG ASN ILE MET LEU ASN ASN ASP GLU LEU GLU PHE GLU GLN ALA PRO GLU F1883 V1922 A2044

L2077 K2078 F2079 P2080 E2117 N2118 A2135 GLU LEU VAL CYS LEU THR R2142 T2158 HIS HIS ASN SER ARG N2164 F2253 SER LYS GLN SER LYS Q2254 E2305 SER THR ASN SER THR GLU ARG ASN V2314 E2395 VAL MET VAL LYS GLU ASN LYS GLU SER LYS HIS LYS M2408

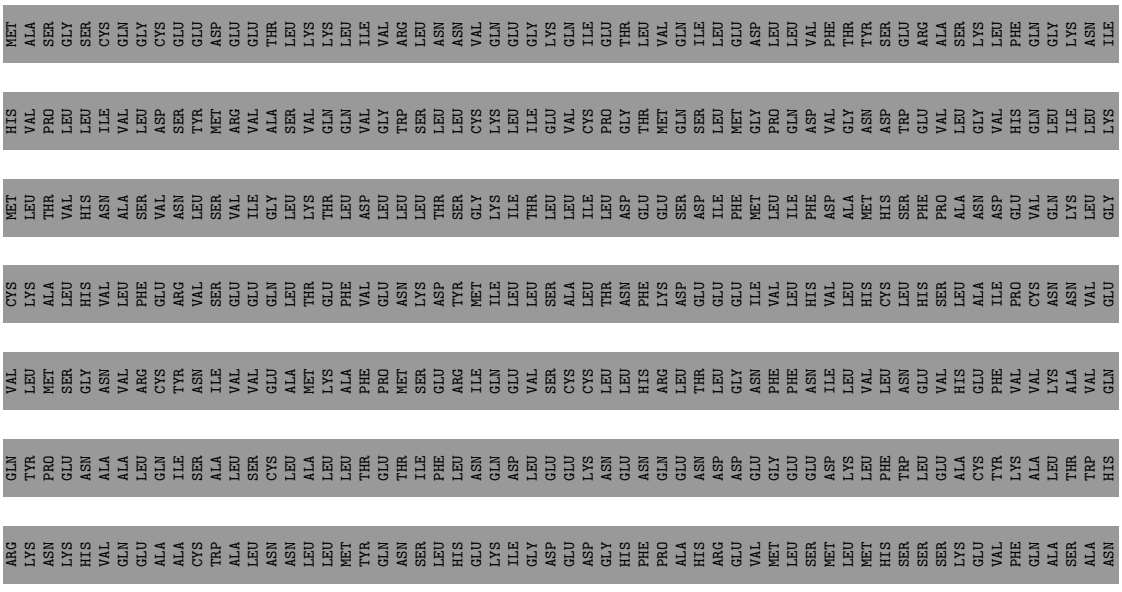
• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

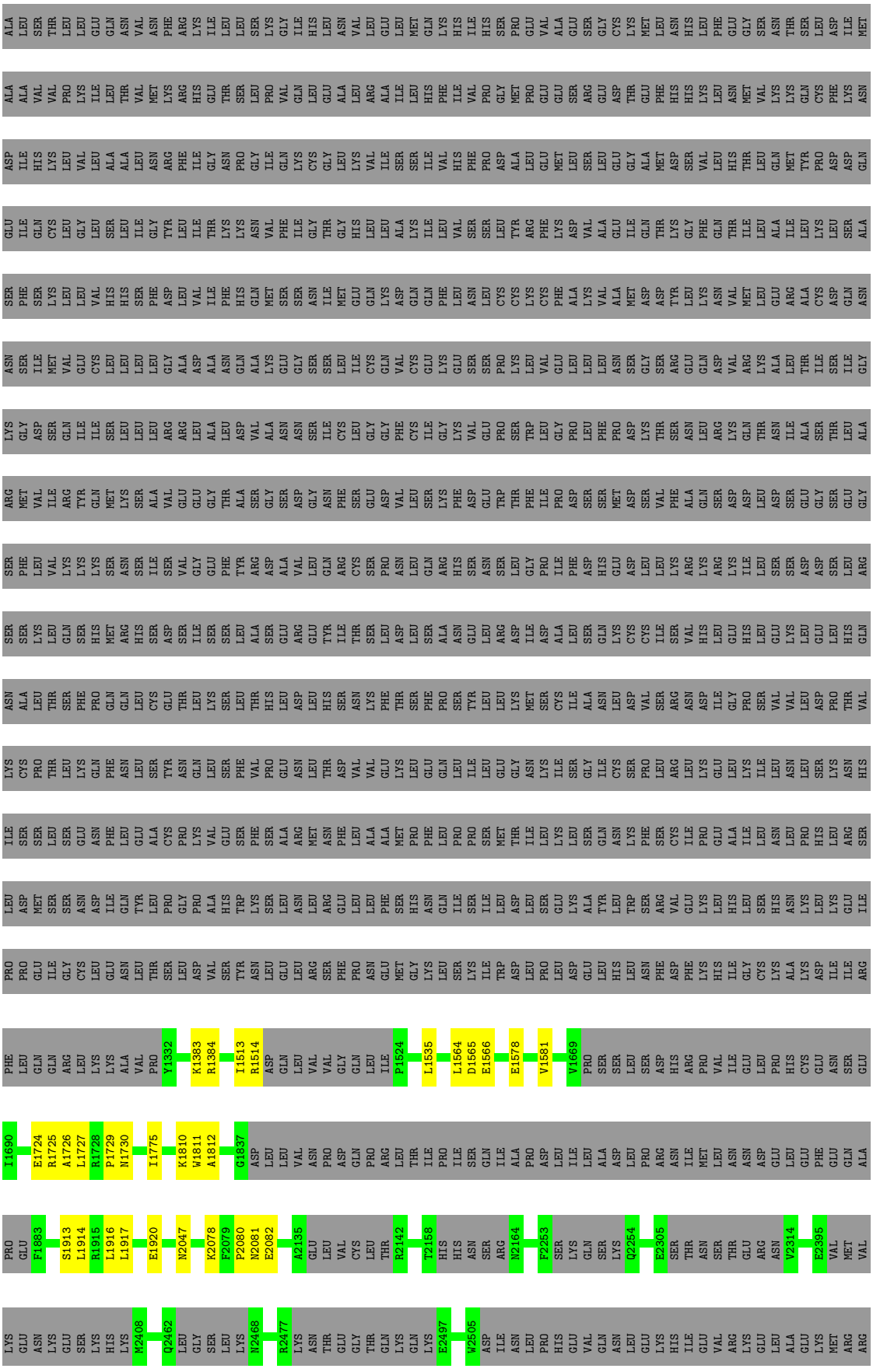
Chain 36-A:



• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

Chain 36-B:





THR SER VAL GLU

• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

Chain 37-A:

MET ALA SER GLY SER CYS GLN GLY CYS GLU GLU ASP GLU GLU THR LEU LYS LYS LEU ILE VAL ARG LEU ASN ASN VAL GLN GLU GLY LYS GLN ILE GLU THR LEU VAL GLN ILE LEU GLU ASP LEU LEU VAL PHE THR TYR SER GLU ARG ALA SER LYS LEU PHE GLN GLY LYS ASN ILE

HIS VAL PRO LEU LEU ILE VAL LEU ASP SER TYR MET ARG VAL ALA SER VAL GLN GLN VAL GLY TRP SER LEU LEU CYS LYS LEU ILE GLU VAL CYS PRO GLY THR MET GLN SER LEU MET GLY PRO GLN ASP VAL GLY ASN ASP TRP GLU VAL LEU GLY VAL HIS GLN LEU ILE LEU LYS

MET LEU THR VAL HIS ASN ALA SER VAL ASN LEU SER VAL ILE GLY LEU LYS THR LEU ASP LEU LEU LEU THR SER GLY LYS ILE THR LEU LEU ILE LEU ASP GLU GLU SER ASP ILE PHE MET LEU ILE PHE ASP ALA MET HIS SER PHE PRO ALA ASN ASP GLU VAL GLN LYS LEU GLY

CYS LYS ALA LEU HIS VAL LEU PHE GLU ARG VAL SER GLU GLU GLN LEU THR GLU PHE VAL GLU ASN LYS ASP TYR MET ILE LEU LEU SER ALA LEU THR ASN PHE LYS ASP GLU GLU GLU ILE VAL LEU HIS VAL LEU HIS CYS LEU HIS SER LEU ALA ILE PRO CYS ASN ASN VAL GLU

VAL LEU MET SER GLY ASN VAL ARG CYS TYR ASN ILE VAL VAL GLU ALA MET LYS ALA PHE PRO MET SER GLU ARG ILE GLN GLU VAL SER CYS CYS LEU LEU HIS ARG LEU THR LEU GLY ASN PHE PHE ASN ILE LEU VAL LEU ASN GLU VAL HIS GLU PHE VAL VAL LYS ALA VAL GLN

GLN TYR PRO GLU ASN ALA ALA LEU GLN ILE SER ALA LEU SER CYS LEU ALA LEU LEU THR GLU THR ILE PHE LEU ASN GLN ASP LEU GLU GLU LYS ASN GLU ASN GLN GLU ASN ASP ASP GLU GLY GLU GLU ASP LYS LEU PHE TRP LEU GLU ALA CYS TYR LYS ALA LEU THR TRP HIS

ARG LYS ASN LYS HIS VAL GLN GLU ALA ALA CYS TRP ALA LEU ASN ASN LEU LEU MET TYR GLN ASN SER LEU HIS GLU LYS ILE GLY ASP GLU ASP GLY HIS PHE PRO ALA HIS ARG GLU VAL MET LEU SER MET LEU MET HIS SER SER SER LYS GLU VAL PHE GLN ALA SER ALA ASN

ALA LEU SER THR LEU LEU GLU GLN ASN VAL ASN PHE ARG LYS ILE LEU LEU SER LYS GLY ILE HIS LEU ASN VAL LEU GLU LEU MET GLN LYS HIS ILE HIS SER PRO GLU VAL ALA GLU SER GLY CYS LYS MET LEU ASN HIS LEU PHE GLU GLY SER ASN THR SER LEU ASP ILE MET

ALA ALA VAL VAL PRO LYS ILE LEU THR VAL MET LYS ARG HIS GLU THR SER LEU PRO VAL GLN LEU GLU ALA LEU ARG ALA ILE LEU HIS PHE ILE VAL PRO GLY MET PRO GLU GLU SER ARG GLU ASP THR GLU PHE HIS HIS LYS LEU ASN MET VAL LYS LYS GLN CYS PHE LYS ASN

ASP ILE HIS LYS LEU VAL LEU ALA ALA LEU ASN ARG PHE ILE GLY ASN PRO GLY ILE GLN LYS CYS GLY LEU LYS VAL ILE SER SER ILE VAL HIS PHE PRO ASP ALA LEU GLU MET LEU SER LEU GLU GLY ALA MET ASP SER VAL LEU HIS THR LEU GLN MET TYR PRO ASP ASP GLN

GLU ILE GLN CYS LEU GLY LEU SER LEU ILE GLY TYR LEU ILE THR LYS LYS ASN VAL PHE ILE GLY THR GLY HIS LEU LEU ALA LYS ILE LEU VAL SER SER LEU TYR ARG PHE LYS ASP VAL ALA GLU ILE GLN THR LYS GLY PHE GLN THR ILE LEU ALA ILE LEU LYS LEU SER ALA

SER PHE SER LYS LEU LEU VAL HIS HIS SER PHE ASP LEU VAL ILE PHE HIS GLN MET SER SER ASN ILE MET GLU GLN LYS ASP GLN GLN PHE LEU ASN LEU CYS CYS LYS CYS PHE ALA LYS VAL ALA MET ASP ASP TYR LEU LYS ASN VAL MET LEU GLU ARG ALA CYS ASP GLN ASN

ASN SER ILE MET VAL GLU CYS LEU LEU LEU LEU GLY ALA ASP ALA ASN GLN ALA LYS GLU GLY SER SER LEU ILE CYS GLN VAL CYS GLU LYS GLU SER SER PRO LYS LEU VAL GLU LEU LEU LEU ASN SER GLY SER ARG GLU GLN ASP VAL ARG LYS ALA LEU THR ILE SER ILE GLY

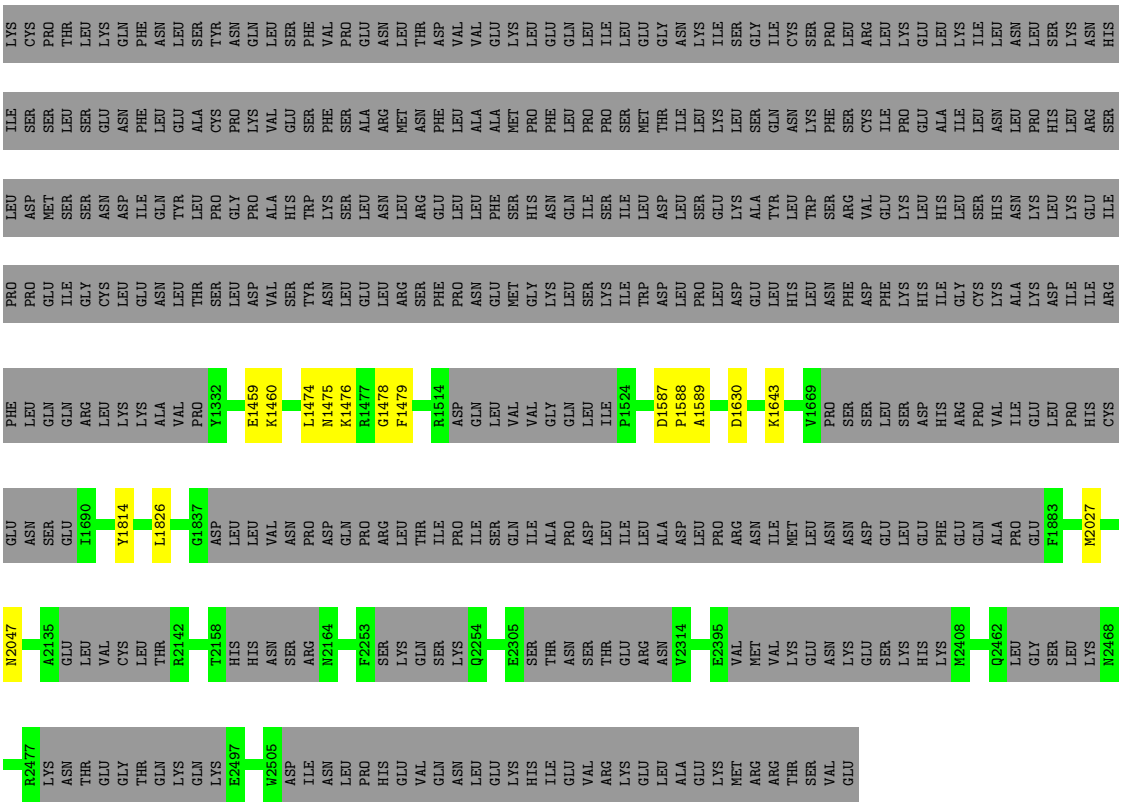
LYS GLY ASP SER GLN ILE ILE SER LEU LEU LEU ARG ARG LEU ALA LEU ASP VAL ALA ASN ASN SER ILE CYS LEU GLY GLY PHE CYS ILE GLY LYS VAL GLU PRO SER TRP LEU GLY PRO LEU PHE PRO ASP LYS THR SER ASN LEU ARG LYS GLN THR ASN ILE ALA SER THR LEU ALA

ARG MET VAL ILE ARG TYR GLN MET LYS SER ALA VAL GLU GLU GLY THR ALA SER GLY SER ASP GLY ASN PHE SER GLU ASP VAL LEU SER LYS PHE ASP GLU TRP THR PHE ILE PRO ASP SER SER MET ASP SER VAL PHE ALA GLN SER ASP ASP LEU ASP SER GLU GLY SER GLU GLY

SER PHE LEU VAL LYS LYS LYS SER ASN SER ILE SER VAL GLY GLU PHE TYR ARG ASP ALA VAL LEU GLN ARG CYS SER PRO ASN LEU GLN ARG HIS SER ASN SER LEU GLY PRO ILE PHE ASP HIS GLU ASP LEU LEU LYS ARG LYS ARG LYS ILE LEU SER SER ASP ASP SER LEU ARG

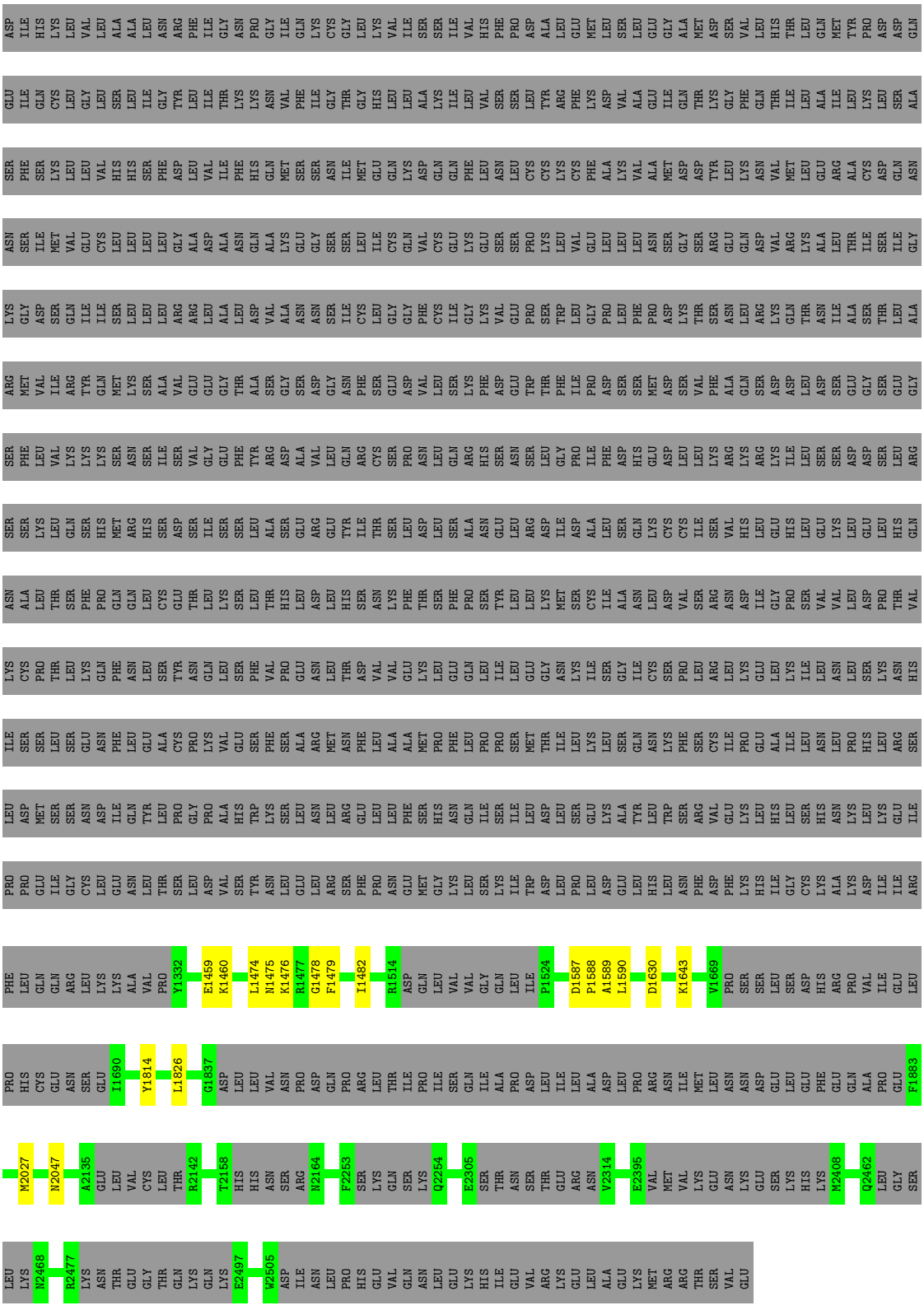
SER SER LYS LEU GLN SER HIS MET ARG HIS SER ASP SER ILE SER SER LEU ALA SER GLU ARG GLU TYR ILE THR SER LEU ASP LEU SER ALA ASN GLU LEU ARG ASP ILE ASP ALA LEU SER GLN LYS CYS CYS ILE SER VAL HIS LEU GLU HIS LEU GLU LYS LEU GLU LEU HIS GLN

ASN ALA LEU THR SER PHE PRO GLN GLN LEU CYS GLU THR LEU LYS SER LEU THR HIS LEU ASP LEU HIS SER ASN LYS PHE THR SER PHE PRO SER TYR LEU LEU LYS MET SER CYS ILE ALA ASN LEU ASP VAL SER ARG ASN ASP ILE GLY PRO SER VAL VAL LEU ASP PRO THR VAL



• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

Chain 37-B:



• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

Chain 38-A: 39% • 59%

MET ALA SER GLY SER CYS GLN GLY CYS GLU GLU ASP GLU GLU THR LEU LYS LYS LEU ILE VAL ARG LEU ASN ASN VAL GLN GLU GLY LYS GLN ILE GLU THR LEU VAL GLN ILE LEU GLU ASP LEU LEU VAL PHE THR TYR SER GLU ARG ALA SER LYS LEU PHE GLN GLY LYS ASN ILE

HIS VAL PRO LEU LEU ILE VAL LEU ASP SER TYR MET ARG VAL ALA SER VAL GLN GLN VAL GLY TRP SER LEU LEU CYS LYS LEU ILE GLU VAL CYS PRO GLY THR MET GLN SER LEU MET GLY PRO GLN ASP VAL GLY ASN ASP TRP GLU VAL LEU GLY VAL HIS GLN LEU ILE LEU LYS

MET LEU THR VAL HIS ASN ALA SER VAL ASN LEU SER VAL ILE GLY LEU LYS THR LEU ASP LEU LEU LEU THR SER GLY LYS ILE THR LEU LEU ILE LEU ASP GLU GLU SER ASP ILE PHE MET LEU ILE PHE ASP ALA MET HIS SER PHE PRO ALA ASN ASP GLU VAL GLN LYS LEU GLY

CYS LYS ALA LEU HIS VAL LEU PHE GLU ARG VAL SER GLU GLU GLN LEU THR GLU PHE VAL GLU ASN LYS ASP TYR MET ILE LEU LEU SER ALA LEU THR ASN PHE LYS ASP GLU GLU GLU ILE VAL LEU HIS VAL LEU HIS CYS LEU HIS SER LEU ALA ILE PRO CYS ASN ASN VAL GLU

VAL LEU MET SER GLY ASN VAL ARG CYS TYR ASN ILE VAL VAL GLU ALA MET LYS ALA PHE PRO MET SER GLU ARG ILE GLN GLU VAL SER CYS CYS LEU LEU HIS ARG LEU THR LEU GLY ASN PHE PHE ASN ILE LEU VAL LEU ASN GLU VAL HIS GLU PHE VAL VAL LYS ALA VAL GLN

GLN TYR PRO GLU ASN ALA ALA LEU GLN ILE SER ALA LEU SER CYS LEU ALA LEU LEU THR GLU THR ILE PHE LEU ASN GLN ASP LEU GLU GLU LYS ASN GLU ASN GLN GLU ASN ASP ASP GLU GLY GLU GLU ASP LYS LEU PHE TRP LEU GLU ALA CYS TYR LYS ALA LEU THR TRP HIS

ARG LYS ASN LYS HIS VAL GLN GLU ALA ALA CYS TRP ALA LEU ASN ASN LEU LEU MET TYR GLN ASN SER LEU HIS GLU LYS ILE GLY ASP GLU ASP GLY HIS PHE PRO ALA HIS ARG GLU VAL MET LEU SER MET LEU MET HIS SER SER SER LYS GLU VAL PHE GLN ALA SER ALA ASN

ALA LEU SER THR LEU LEU GLU GLN ASN VAL ASN PHE ARG LYS ILE LEU LEU SER LYS GLY ILE HIS LEU ASN VAL LEU GLU LEU MET GLN LYS HIS ILE HIS SER PRO GLU VAL ALA GLU SER GLY CYS LYS MET LEU ASN HIS LEU PHE GLU GLY SER ASN THR SER LEU ASP ILE MET

ALA ALA VAL VAL PRO LYS ILE LEU THR VAL MET LYS ARG HIS GLU THR SER LEU PRO VAL GLN LEU GLU ALA LEU ARG ALA ILE LEU HIS PHE ILE VAL PRO GLY MET PRO GLU GLU SER ARG GLU ASP THR GLU PHE HIS HIS LYS LEU ASN MET VAL LYS LYS GLN CYS PHE LYS ASN

ASP ILE HIS LYS LEU VAL LEU ALA ALA LEU ASN ARG PHE ILE GLY ASN PRO GLY ILE GLN LYS CYS GLY LEU LYS VAL ILE SER SER ILE VAL HIS PHE PRO ASP ALA LEU GLU MET LEU SER LEU GLU GLY ALA MET ASP SER VAL LEU HIS THR LEU GLN MET TYR PRO ASP ASP GLN

GLU ILE GLN CYS LEU GLY LEU SER LEU ILE GLY TYR LEU ILE THR LYS LYS ASN VAL PHE ILE GLY THR GLY HIS LEU LEU ALA LYS ILE LEU VAL SER SER LEU TYR ARG PHE LYS ASP VAL ALA GLU ILE GLN THR LYS GLY PHE GLN THR ILE LEU ALA ILE LEU LYS LEU SER ALA

SER PHE SER LYS LEU LEU VAL HIS HIS SER PHE ASP LEU VAL ILE PHE HIS GLN MET SER SER ASN ILE MET GLU GLN LYS ASP GLN GLN PHE LEU ASN LEU CYS CYS LYS CYS PHE ALA LYS VAL ALA MET ASP ASP TYR LEU LYS ASN VAL MET LEU GLU ARG ALA CYS ASP GLN ASN

ASN SER ILE MET VAL GLU CYS LEU LEU LEU LEU GLY ALA ASP ALA ASN GLN ALA LYS GLU GLY SER SER LEU ILE CYS GLN VAL CYS GLU LYS GLU SER SER PRO LYS LEU VAL GLU LEU LEU LEU ASN SER GLY SER ARG GLU GLN ASP VAL ARG LYS ALA LEU THR ILE SER ILE GLY

LYS GLY ASP SER GLN ILE ILE SER LEU LEU LEU ARG ARG LEU ALA LEU ASP VAL ALA ASN ASN SER ILE CYS LEU GLY GLY PHE CYS ILE GLY LYS VAL GLU PRO SER TRP LEU GLY PRO LEU PHE PRO ASP LYS THR SER ASN LEU ARG LYS GLN THR ASN ILE ALA SER THR LEU ALA

ARG MET VAL ILE ARG TYR GLN MET LYS SER ALA VAL GLU GLU GLY THR ALA SER GLY SER ASP GLY ASN PHE SER GLU ASP VAL LEU SER LYS PHE ASP GLU TRP THR PHE ILE PRO ASP SER SER MET ASP SER VAL PHE ALA GLN SER ASP ASP LEU ASP SER GLU GLY SER GLU GLY

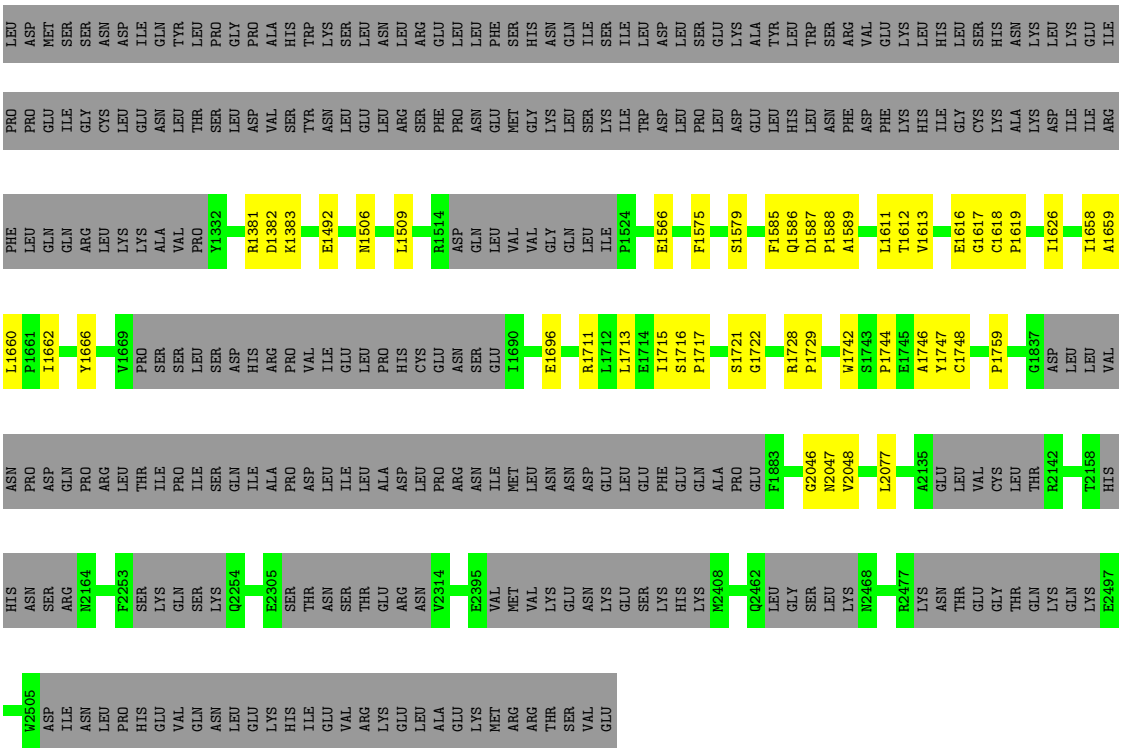
SER PHE LEU VAL LYS LYS LYS SER ASN SER ILE SER VAL GLY GLU PHE TYR ARG ASP ALA VAL LEU GLN ARG CYS SER PRO ASN LEU GLN ARG HIS SER ASN SER LEU GLY PRO ILE PHE ASP HIS GLU ASP LEU LEU LYS ARG LYS ARG LYS ILE LEU SER SER ASP ASP SER LEU ARG

SER SER LYS LEU GLN SER HIS MET ARG HIS SER ASP SER ILE SER SER LEU ALA SER GLU ARG GLU TYR ILE THR SER LEU ASP LEU SER ALA ASN GLU LEU ARG ASP ILE ASP ALA LEU SER GLN LYS CYS CYS ILE SER VAL HIS LEU GLU HIS LEU GLU LYS LEU GLU LEU HIS GLN

ASN ALA LEU THR SER PHE PRO GLN GLN LEU CYS GLU THR LEU LYS SER LEU THR HIS LEU ASP LEU HIS SER ASN LYS PHE THR SER PHE PRO SER TYR LEU LEU LYS MET SER CYS ILE ALA ASN LEU ASP VAL SER ARG ASN ASP ILE GLY PRO SER VAL VAL LEU ASP PRO THR VAL

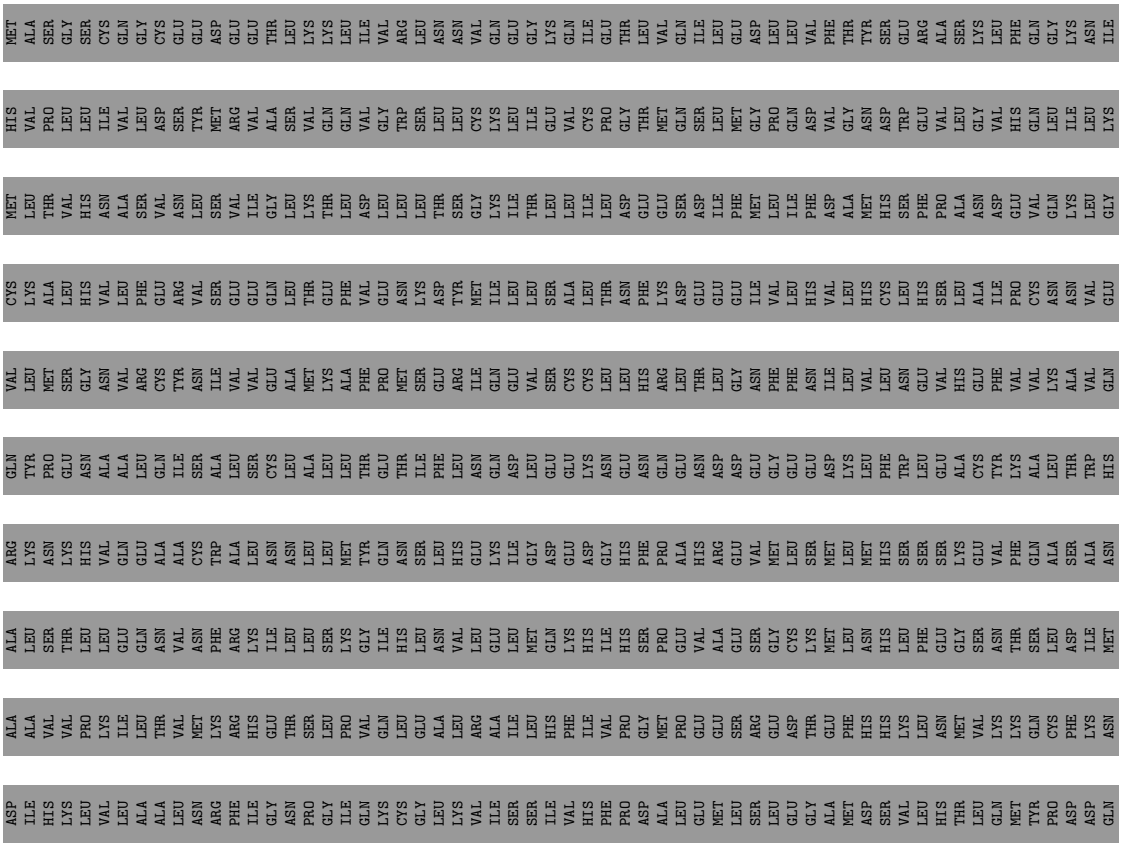
LYS CYS PRO THR LEU LYS GLN PHE ASN LEU SER TYR ASN GLN LEU SER PHE VAL PRO GLU ASN LEU THR ASP VAL VAL GLU LYS LEU GLU GLN LEU ILE LEU GLU GLY ASN LYS ILE SER GLY ILE CYS SER PRO LEU ARG LEU LYS GLU LEU LYS ILE LEU ASN LEU SER LYS ASN HIS

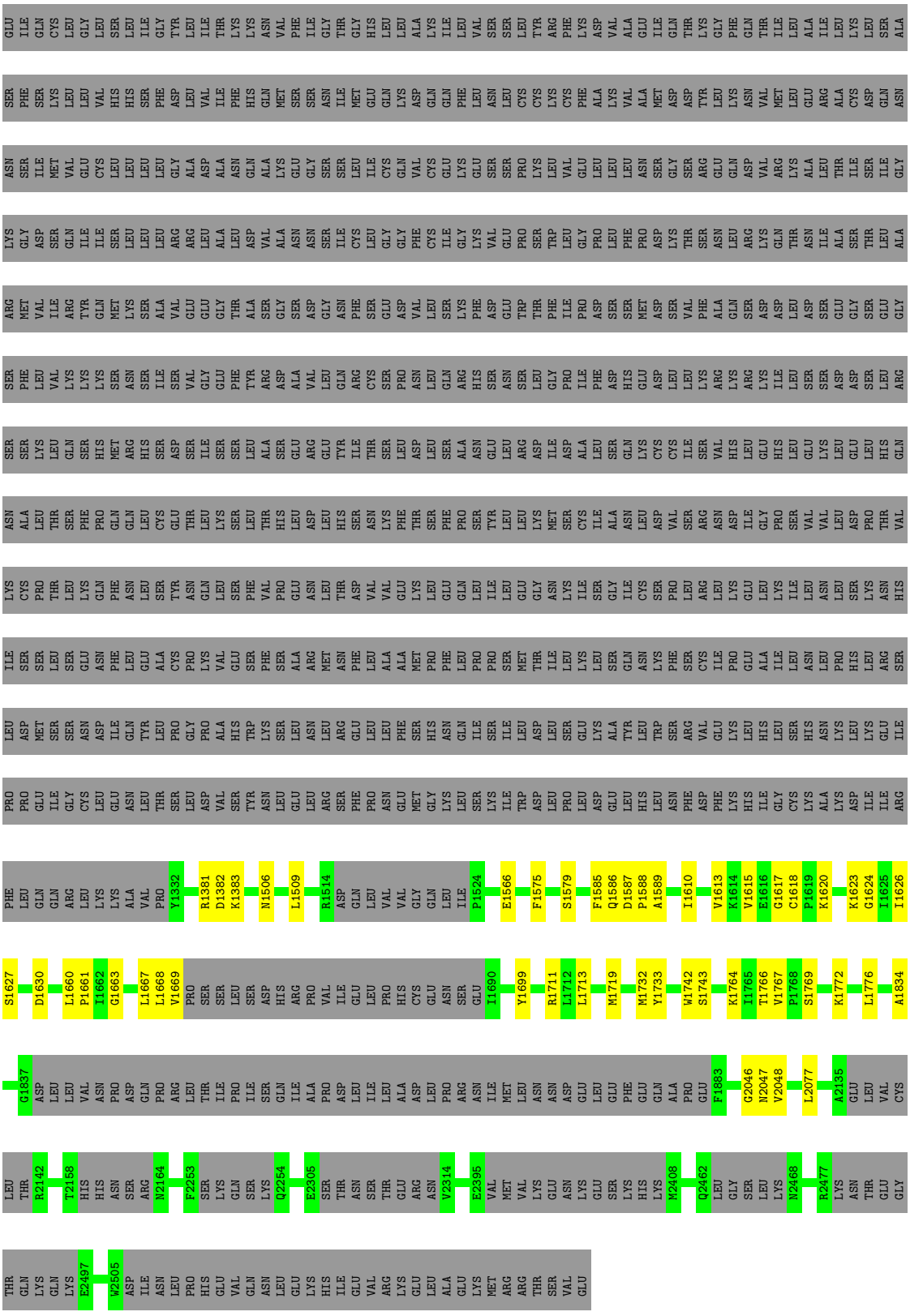
ILE SER SER LEU SER GLU ASN PHE LEU GLU ALA CYS PRO LYS VAL GLU SER PHE SER ALA ARG MET ASN PHE LEU ALA ALA MET PRO PHE LEU PRO PRO SER MET THR ILE LEU LYS LEU SER GLN ASN LYS PHE SER CYS ILE PRO GLU ALA ILE LEU ASN LEU PRO HIS LEU ARG SER



• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

Chain 38-B:





• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

Chain 39-A: 40% • 59%

MET ALA SER GLY SER CYS GLN GLY CYS GLU GLU ASP GLU GLU THR LEU LYS LYS LEU ILE VAL ARG LEU ASN ASN VAL GLN GLU GLY LYS GLN ILE GLU THR LEU VAL GLN ILE LEU GLU ASP LEU LEU VAL PHE THR TYR SER GLU ARG ALA SER LYS LEU PHE GLN GLY LYS ASN ILE

HIS VAL PRO LEU LEU ILE VAL LEU ASP SER TYR MET ARG VAL ALA SER VAL GLN GLN VAL GLY TRP SER LEU LEU CYS LYS LEU ILE GLU VAL CYS PRO GLY THR MET GLN SER LEU MET GLY PRO GLN ASP VAL GLY ASN ASP TRP GLU VAL LEU GLY VAL HIS GLN LEU ILE LEU LYS

MET LEU THR VAL HIS ASN ALA SER VAL ASN LEU SER VAL ILE GLY LEU LYS THR LEU ASP LEU LEU LEU THR SER GLY LYS ILE THR LEU LEU ILE LEU ASP GLU GLU SER ASP ILE PHE MET LEU ILE PHE ASP ALA MET HIS SER PHE PRO ALA ASN ASP GLU VAL GLN LYS LEU GLY

CYS LYS ALA LEU HIS VAL LEU PHE GLU ARG VAL SER GLU GLU GLN LEU THR GLU PHE VAL GLU ASN LYS ASP TYR MET ILE LEU LEU SER ALA LEU THR ASN PHE LYS ASP GLU GLU GLU ILE VAL LEU HIS VAL LEU HIS CYS LEU HIS SER LEU ALA ILE PRO CYS ASN ASN VAL GLU

VAL LEU MET SER GLY ASN VAL ARG CYS TYR ASN ILE VAL VAL GLU ALA MET LYS ALA PHE PRO MET SER GLU ARG ILE GLN GLU VAL SER CYS CYS LEU LEU HIS ARG LEU THR LEU GLY ASN PHE PHE ASN ILE LEU VAL LEU ASN GLU VAL HIS GLU PHE VAL VAL LYS ALA VAL GLN

GLN TYR PRO GLU ASN ALA ALA LEU GLN ILE SER ALA LEU SER CYS LEU ALA LEU LEU THR GLU THR ILE PHE LEU ASN GLN ASP LEU GLU GLU LYS ASN GLU ASN GLN GLU ASN ASP ASP GLU GLY GLU GLU ASP LYS LEU PHE TRP LEU GLU ALA CYS TYR LYS ALA LEU THR TRP HIS

ARG LYS ASN LYS HIS VAL GLN GLU ALA ALA CYS TRP ALA LEU ASN ASN LEU LEU MET TYR GLN ASN SER LEU HIS GLU LYS ILE GLY ASP GLU ASP GLY HIS PHE PRO ALA HIS ARG GLU VAL MET LEU SER MET LEU MET HIS SER SER SER LYS GLU VAL PHE GLN ALA SER ALA ASN

ALA LEU SER THR LEU LEU GLU GLN ASN VAL ASN PHE ARG LYS ILE LEU LEU SER LYS GLY ILE HIS LEU ASN VAL LEU GLU LEU MET GLN LYS HIS ILE HIS SER PRO GLU VAL ALA GLU SER GLY CYS LYS MET LEU ASN HIS LEU PHE GLU GLY SER ASN THR SER LEU ASP ILE MET

ALA ALA VAL VAL PRO LYS ILE LEU THR VAL MET LYS ARG HIS GLU THR SER LEU PRO VAL GLN LEU GLU ALA LEU ARG ALA ILE LEU HIS PHE ILE VAL PRO GLY MET PRO GLU GLU SER ARG GLU ASP THR GLU PHE HIS HIS LYS LEU ASN MET VAL LYS LYS GLN CYS PHE LYS ASN

ASP ILE HIS LYS LEU VAL LEU ALA ALA LEU ASN ARG PHE ILE GLY ASN PRO GLY ILE GLN LYS CYS GLY LEU LYS VAL ILE SER SER ILE VAL HIS PHE PRO ASP ALA LEU GLU MET LEU SER LEU GLU GLY ALA MET ASP SER VAL LEU HIS THR LEU GLN MET TYR PRO ASP ASP GLN

GLU ILE GLN CYS LEU GLY LEU SER LEU ILE GLY TYR LEU ILE THR LYS LYS ASN VAL PHE ILE GLY THR GLY HIS LEU LEU ALA LYS ILE LEU VAL SER SER LEU TYR ARG PHE LYS ASP VAL ALA GLU ILE GLN THR LYS GLY PHE GLN THR ILE LEU ALA ILE LEU LYS LEU SER ALA

SER PHE SER LYS LEU LEU VAL HIS HIS SER PHE ASP LEU VAL ILE PHE HIS GLN MET SER SER ASN ILE MET GLU GLN LYS ASP GLN GLN PHE LEU ASN LEU CYS CYS LYS CYS PHE ALA LYS VAL ALA MET ASP ASP TYR LEU LYS ASN VAL MET LEU GLU ARG ALA CYS ASP GLN ASN

ASN SER ILE MET VAL GLU CYS LEU LEU LEU LEU GLY ALA ASP ALA ASN GLN ALA LYS GLU GLY SER SER LEU ILE CYS GLN VAL CYS GLU LYS GLU SER SER PRO LYS LEU VAL GLU LEU LEU LEU ASN SER GLY SER ARG GLU GLN ASP VAL ARG LYS ALA LEU THR ILE SER ILE GLY

LYS GLY ASP SER GLN ILE ILE SER LEU LEU ARG ARG LEU ALA LEU ASP VAL ALA ASN ASN SER ILE CYS LEU GLY GLY PHE CYS ILE GLY LYS VAL GLU PRO SER TRP LEU GLY PRO LEU PHE PRO ASP LYS THR SER ASN LEU ARG LYS GLN THR ASN ILE ALA SER THR LEU ALA

ARG MET VAL ILE ARG TYR GLN MET LYS SER ALA VAL GLU GLU GLY THR ALA SER GLY SER ASP GLY ASN PHE SER GLU ASP VAL LEU SER LYS PHE ASP GLU TRP THR PHE ILE PRO ASP SER SER MET ASP SER VAL PHE ALA GLN SER ASP ASP LEU ASP SER GLU GLY SER GLU GLY

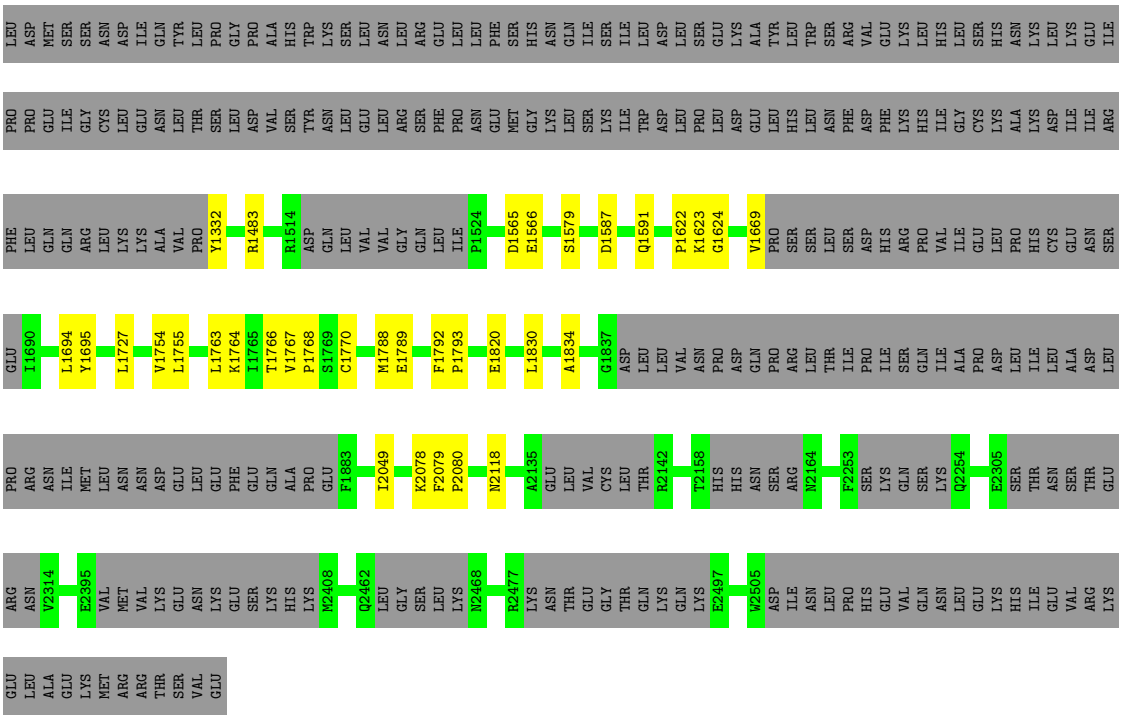
SER PHE LEU VAL LYS LYS LYS SER ASN SER ILE SER VAL GLY GLU PHE TYR ARG ASP ALA VAL LEU GLN ARG CYS SER PRO ASN LEU GLN ARG HIS SER ASN SER LEU GLY PRO ILE PHE ASP HIS GLU ASP LEU LEU LYS ARG LYS ARG LYS ILE LEU SER SER ASP ASP SER LEU ARG

SER SER LYS LEU GLN SER HIS MET ARG HIS SER ASP SER ILE SER SER LEU ALA SER GLU ARG GLU TYR ILE THR SER LEU ASP LEU SER ALA ASN GLU LEU ARG ASP ILE ASP ALA LEU SER GLN LYS CYS CYS ILE SER VAL HIS LEU GLU HIS LEU GLU LYS LEU GLU LEU HIS GLN

ASN ALA LEU THR SER PHE PRO GLN GLN LEU CYS GLU THR LEU LYS SER LEU THR HIS LEU ASP LEU HIS SER ASN LYS PHE THR SER PHE PRO SER TYR LEU LEU LYS MET SER CYS ILE ALA ASN LEU ASP VAL SER ARG ASN ASP ILE GLY PRO SER VAL VAL LEU ASP PRO THR VAL

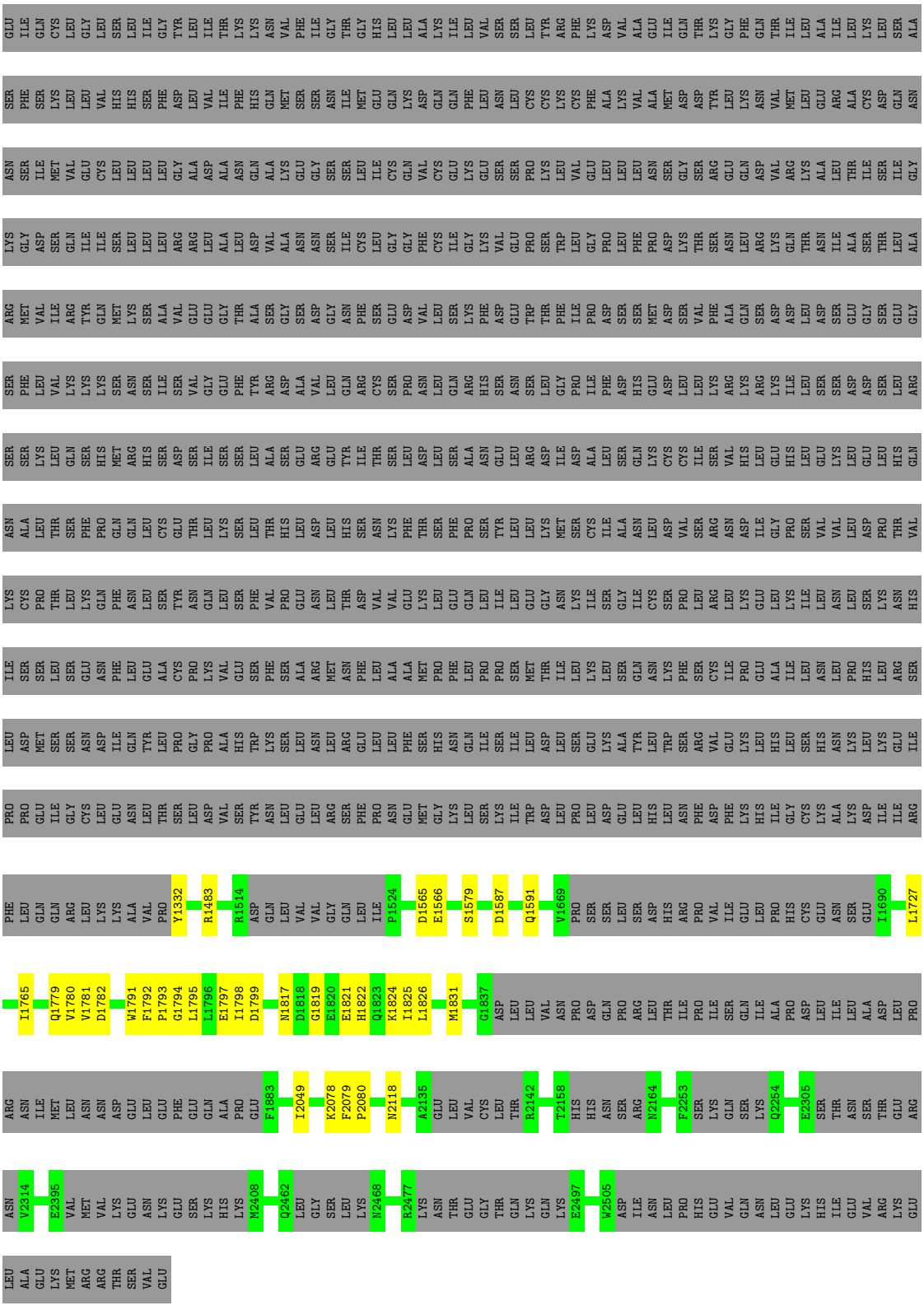
LYS CYS PRO THR LEU LYS GLN PHE ASN LEU SER TYR ASN GLN LEU SER PHE VAL PRO GLU ASN LEU THR ASP VAL VAL GLU LYS LEU GLU GLN LEU ILE LEU GLU GLY ASN LYS ILE SER GLY ILE CYS SER PRO LEU ARG LEU LYS GLU LEU LYS ILE LEU ASN LEU SER LYS ASN HIS

ILE SER SER LEU SER GLU ASN PHE LEU GLU ALA CYS PRO LYS VAL GLU SER PHE SER ALA ARG MET ASN PHE LEU ALA ALA MET PRO PHE LEU PRO PRO SER MET THR ILE LEU LYS LEU SER GLN ASN LYS PHE SER CYS ILE PRO GLU ALA ILE LEU ASN LEU PRO HIS LEU ARG SER



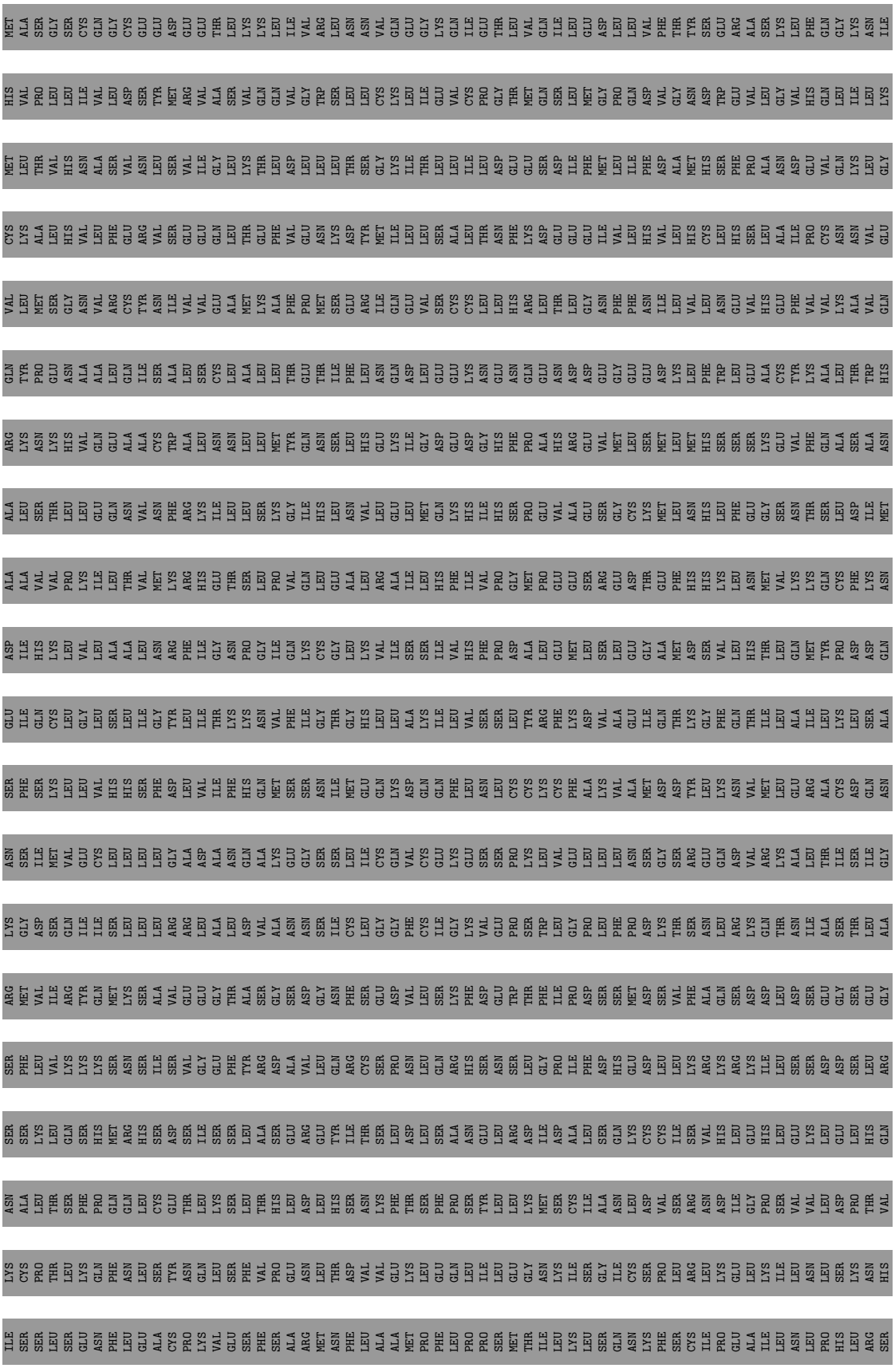
• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

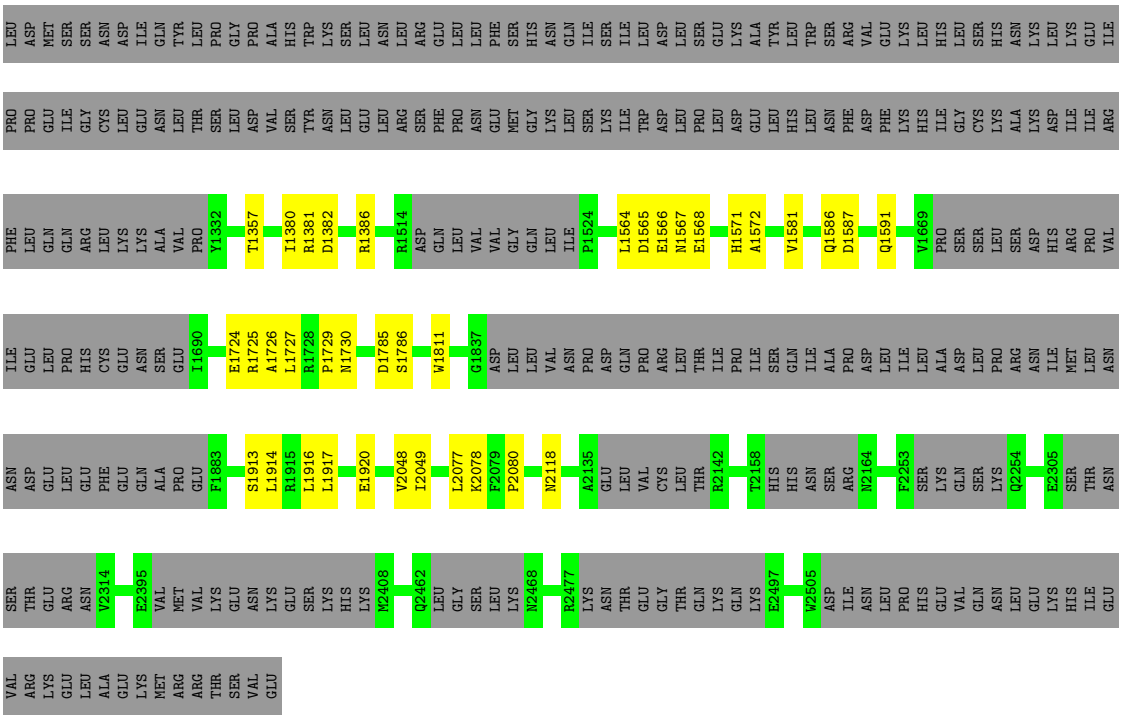
Chain 39-B:



• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

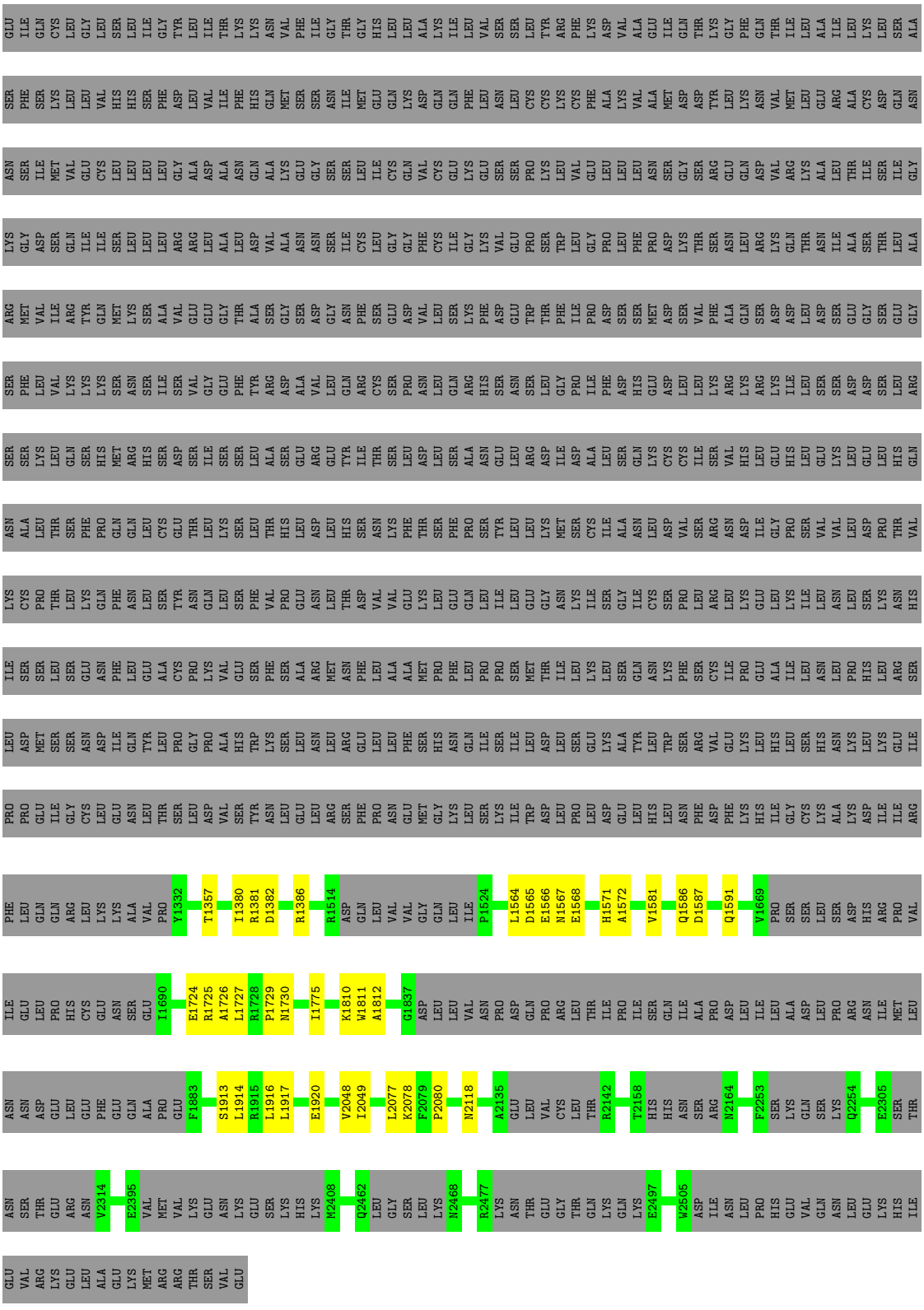
Chain 40-A: 40% 59%





• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

Chain 40-B:



• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

Chain 41-A: 39% • 59%

MET ALA SER GLY SER CYS GLN GLY CYS GLU GLU ASP GLU GLU THR LEU LYS LYS LEU ILE VAL ARG LEU ASN ASN VAL GLN GLU GLY LYS GLN ILE GLU THR LEU VAL GLN ILE LEU GLU ASP LEU LEU VAL PHE THR TYR SER GLU ARG ALA SER LYS LEU PHE GLN GLY LYS ASN ILE

HIS VAL PRO LEU LEU ILE VAL LEU ASP SER TYR MET ARG VAL ALA SER VAL GLN GLN VAL GLY TRP SER LEU LEU CYS LYS LEU ILE GLU VAL CYS PRO GLY THR MET GLN SER LEU MET GLY PRO GLN ASP VAL GLY ASN ASP TRP GLU VAL LEU GLY VAL HIS GLN LEU ILE LEU LYS

MET LEU THR VAL HIS ASN ALA SER VAL ASN LEU SER VAL ILE GLY LEU LYS THR LEU ASP LEU LEU LEU THR SER GLY LYS ILE THR LEU LEU ILE LEU ASP GLU GLU SER ASP ILE PHE MET LEU ILE PHE ASP ALA MET HIS SER PHE PRO ALA ASN ASP GLU VAL GLN LYS LEU GLY

CYS LYS ALA LEU HIS VAL LEU PHE GLU ARG VAL SER GLU GLU GLN LEU THR GLU PHE VAL GLU ASN LYS ASP TYR MET ILE LEU LEU SER ALA LEU THR ASN PHE LYS ASP GLU GLU GLU ILE VAL LEU HIS VAL LEU HIS CYS LEU HIS SER LEU ALA ILE PRO CYS ASN ASN VAL GLU

VAL LEU MET SER GLY ASN VAL ARG CYS TYR ASN ILE VAL VAL GLU ALA MET LYS ALA PHE PRO MET SER GLU ARG ILE GLN GLU VAL SER CYS CYS LEU LEU HIS ARG LEU THR LEU GLY ASN PHE PHE ASN ILE LEU VAL LEU ASN GLU VAL HIS GLU PHE VAL VAL LYS ALA VAL GLN

GLN TYR PRO GLU ASN ALA ALA LEU GLN ILE SER ALA LEU SER CYS LEU ALA LEU LEU THR GLU THR ILE PHE LEU ASN GLN ASP LEU GLU GLU LYS ASN GLU ASN GLN GLU ASN ASP ASP GLU GLY GLU GLU ASP LYS LEU PHE TRP LEU GLU ALA CYS TYR LYS ALA LEU THR TRP HIS

ARG LYS ASN LYS HIS VAL GLN GLU ALA ALA CYS TRP ALA LEU ASN ASN LEU LEU MET TYR GLN ASN SER LEU HIS GLU LYS ILE GLY ASP GLU ASP GLY HIS PHE PRO ALA HIS ARG GLU VAL MET LEU SER MET LEU MET HIS SER SER SER LYS GLU VAL PHE GLN ALA SER ALA ASN

ALA LEU SER THR LEU LEU GLU GLN ASN VAL ASN PHE ARG LYS ILE LEU LEU SER LYS GLY ILE HIS LEU ASN VAL LEU GLU LEU MET GLN LYS HIS ILE HIS SER PRO GLU VAL ALA GLU SER GLY CYS LYS MET LEU ASN HIS LEU PHE GLU GLY SER ASN THR SER LEU ASP ILE MET

ALA ALA VAL VAL PRO LYS ILE LEU THR VAL MET LYS ARG HIS GLU THR SER LEU PRO VAL GLN LEU GLU ALA LEU ARG ALA ILE LEU HIS PHE ILE VAL PRO GLY MET PRO GLU GLU SER ARG GLU ASP THR GLU PHE HIS HIS LYS LEU ASN MET VAL LYS LYS GLN CYS PHE LYS ASN

ASP ILE HIS LYS LEU VAL LEU ALA ALA LEU ASN ARG PHE ILE GLY ASN PRO GLY ILE GLN LYS CYS GLY LEU LYS VAL ILE SER SER ILE VAL HIS PHE PRO ASP ALA LEU GLU MET LEU SER LEU GLU GLY ALA MET ASP SER VAL LEU HIS THR LEU GLN MET TYR PRO ASP ASP GLN

GLU ILE GLN CYS LEU GLY LEU SER LEU ILE GLY TYR LEU ILE THR LYS LYS ASN VAL PHE ILE GLY THR GLY HIS LEU LEU ALA LYS ILE LEU VAL SER SER LEU TYR ARG PHE LYS ASP VAL ALA GLU ILE GLN THR LYS GLY PHE GLN THR ILE LEU ALA ILE LEU LYS LEU SER ALA

SER PHE SER LYS LEU LEU VAL HIS HIS SER PHE ASP LEU VAL ILE PHE HIS GLN MET SER SER ASN ILE MET GLU GLN LYS ASP GLN GLN PHE LEU ASN LEU CYS CYS LYS CYS PHE ALA LYS VAL ALA MET ASP ASP TYR LEU LYS ASN VAL MET LEU GLU ARG ALA CYS ASP GLN ASN

ASN SER ILE MET VAL GLU CYS LEU LEU LEU LEU GLY ALA ASP ALA ASN GLN ALA LYS GLU GLY SER SER LEU ILE CYS GLN VAL CYS GLU LYS GLU SER SER PRO LYS LEU VAL GLU LEU LEU LEU ASN SER GLY SER ARG GLU GLN ASP VAL ARG LYS ALA LEU THR ILE SER ILE GLY

LYS GLY ASP SER GLN ILE ILE SER LEU LEU ARG ARG LEU ALA LEU ASP VAL ALA ASN ASN SER ILE CYS LEU GLY GLY PHE CYS ILE GLY LYS VAL GLU PRO SER TRP LEU GLY PRO LEU PHE PRO ASP LYS THR SER ASN LEU ARG LYS GLN THR ASN ILE ALA SER THR LEU ALA

ARG MET VAL ILE ARG TYR GLN MET LYS SER ALA VAL GLU GLU GLY THR ALA SER GLY SER ASP GLY ASN PHE SER GLU ASP VAL LEU SER LYS PHE ASP GLU TRP THR PHE ILE PRO ASP SER SER MET ASP SER VAL PHE ALA GLN SER ASP ASP LEU ASP SER GLU GLY SER GLU GLY

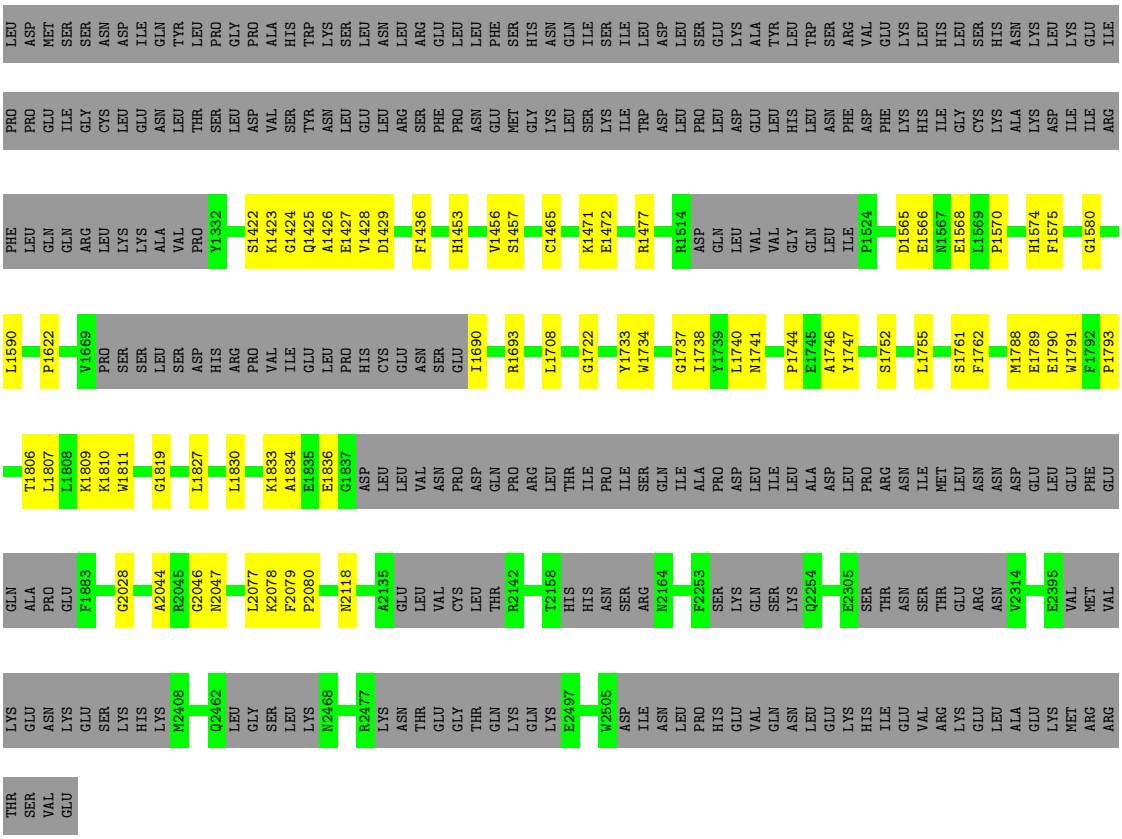
SER PHE LEU VAL LYS LYS LYS SER ASN SER ILE SER VAL GLY GLU PHE TYR ARG ASP ALA VAL LEU GLN ARG CYS SER PRO ASN LEU GLN ARG HIS SER ASN SER LEU GLY PRO ILE PHE ASP HIS GLU ASP LEU LEU LYS ARG LYS ARG LYS ILE LEU SER SER ASP ASP SER LEU ARG

SER SER LYS LEU GLN SER HIS MET ARG HIS SER ASP SER ILE SER SER LEU ALA SER GLU ARG GLU TYR ILE THR SER LEU ASP LEU SER ALA ASN GLU LEU ARG ASP ILE ASP ALA LEU SER GLN LYS CYS CYS ILE SER VAL HIS LEU GLU HIS LEU GLU LYS LEU GLU LEU HIS GLN

ASN ALA LEU THR SER PHE PRO GLN GLN LEU CYS GLU THR LEU LYS SER LEU THR HIS LEU ASP LEU HIS SER ASN LYS PHE THR SER PHE PRO SER TYR LEU LEU LYS MET SER CYS ILE ALA ASN LEU ASP VAL SER ARG ASN ASP ILE GLY PRO SER VAL VAL LEU ASP PRO THR VAL

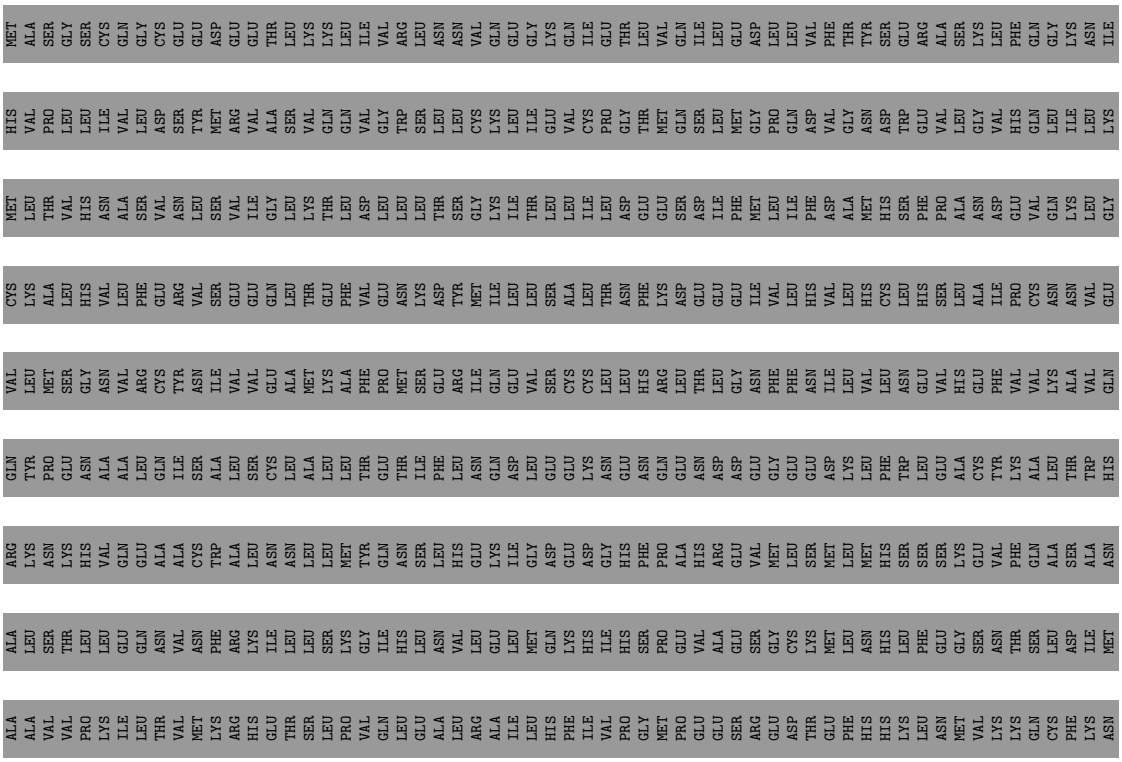
LYS CYS PRO THR LEU LYS GLN PHE ASN LEU SER TYR ASN GLN LEU SER PHE VAL PRO GLU ASN LEU THR ASP VAL VAL GLU LYS LEU GLU GLN LEU ILE LEU GLU GLY ASN LYS ILE SER GLY ILE CYS SER PRO LEU ARG LEU LYS GLU LEU LYS ILE LEU ASN LEU SER LYS ASN HIS

ILE SER SER LEU SER GLU ASN PHE LEU GLU ALA CYS PRO LYS VAL GLU SER PHE SER ALA ARG MET ASN PHE LEU ALA ALA MET PRO PHE LEU PRO PRO SER MET THR ILE LEU LYS LEU SER GLN ASN LYS PHE SER CYS ILE PRO GLU ALA ILE LEU ASN LEU PRO HIS LEU ARG SER



• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

Chain 41-B: 



ASP ILE HIS LYS LEU VAL LEU ALA ALA LEU ASN ARG PHE ILE GLY ASN PRO GLY ILE GLN LYS CYS GLY LEU LYS VAL ILE SER SER ILE VAL HIS PHE PRO ASP ALA LEU GLU MET LEU SER LEU GLU GLY ALA MET ASP SER VAL LEU HIS THR LEU GLN MET TYR PRO ASP ASP GLN

GLU ILE GLN CYS LEU GLY LEU SER LEU ILE GLY TYR LEU ILE THR LYS LYS ASN VAL PHE ILE GLY THR GLY HIS LEU LEU ALA LYS ILE LEU VAL SER SER LEU TYR ARG PHE LYS ASP VAL ALA GLU ILE GLN THR LYS GLY PHE GLN THR ILE LEU ALA ILE LEU LYS LEU SER ALA

SER PHE SER LYS LEU LEU VAL HIS HIS SER PHE ASP LEU VAL ILE PHE HIS GLN MET SER SER ASN ILE MET GLU GLN LYS ASP GLN GLN PHE LEU ASN LEU CYS CYS LYS CYS PHE ALA LYS VAL ALA MET ASP ASP TYR LEU LYS ASN VAL MET LEU GLU ARG ALA CYS ASP GLN ASN

ASN SER ILE MET VAL GLU CYS LEU LEU LEU LEU GLY ALA ASP ALA ASN GLN ALA LYS GLU GLY SER SER LEU ILE CYS GLN VAL CYS GLU LYS GLU SER SER PRO LYS LEU VAL GLU LEU LEU LEU ASN SER GLY SER ARG GLU GLN ASP VAL ARG LYS ALA LEU THR ILE SER ILE GLY

LYS GLY ASP SER GLN ILE ILE SER LEU LEU LEU ARG ARG LEU ALA LEU ASP VAL ALA ASN ASN SER ILE CYS LEU GLY GLY PHE CYS ILE GLY LYS VAL GLU PRO SER TRP LEU GLY PRO LEU PHE PRO ASP LYS THR SER ASN LEU ARG LYS GLN THR ASN ILE ALA SER THR LEU ALA

ARG MET VAL ILE ARG TYR GLN MET LYS SER ALA VAL GLU GLU GLY THR ALA SER GLY SER ASP GLY ASN PHE SER GLU ASP VAL LEU SER LYS PHE ASP GLU TRP THR PHE ILE PRO ASP SER SER MET ASP SER VAL PHE ALA GLN SER ASP ASP LEU ASP SER GLU GLY SER GLU GLY

SER PHE LEU VAL LYS LYS LYS SER ASN SER ILE SER VAL GLY GLU PHE TYR ARG ASP ALA VAL LEU GLN ARG CYS SER PRO ASN LEU GLN ARG HIS SER ASN SER LEU GLY PRO ILE PHE ASP HIS GLU ASP LEU LEU LYS ARG LYS ARG LYS ILE LEU SER SER ASP ASP SER LEU ARG

SER SER LYS LEU GLN SER HIS MET ARG HIS SER ASP SER ILE SER SER LEU ALA SER GLU ARG GLU TYR ILE THR SER LEU ASP LEU SER ALA ASN GLU LEU ARG ASP ILE ASP ALA LEU SER GLN LYS CYS CYS ILE SER VAL HIS LEU GLU HIS LEU GLU LYS LEU GLU LEU HIS GLN

ASN ALA LEU THR SER PHE PRO GLN GLN LEU CYS GLU THR LEU LYS SER LEU THR HIS LEU ASP LEU HIS SER ASN LYS PHE THR SER PHE PRO SER TYR LEU LEU LYS MET SER CYS ILE ALA ASN LEU ASP VAL SER ARG ASN ASP ILE GLY PRO SER VAL VAL LEU ASP PRO THR VAL

LYS CYS PRO THR LEU LYS GLN PHE ASN LEU SER TYR ASN GLN LEU SER PHE VAL PRO GLU ASN LEU THR ASP VAL VAL GLU LYS LEU GLU GLN LEU ILE LEU GLU GLY ASN LYS ILE SER GLY ILE CYS SER PRO LEU ARG LEU LYS GLU LEU LYS ILE LEU ASN LEU SER LYS ASN HIS

ILE SER SER LEU SER GLU ASN PHE LEU GLU ALA CYS PRO LYS VAL GLU SER PHE SER ALA ARG MET ASN PHE LEU ALA ALA MET PRO PHE LEU PRO PRO SER MET THR ILE LEU LYS LEU SER GLN ASN LYS PHE SER CYS ILE PRO GLU ALA ILE LEU ASN LEU PRO HIS LEU ARG SER

LEU ASP MET SER SER ASN ASP ILE GLN TYR LEU PRO GLY PRO ALA HIS TRP LYS SER LEU ASN LEU ARG GLU LEU LEU PHE SER HIS ASN GLN ILE SER ILE LEU ASP LEU SER GLU LYS ALA TYR LEU TRP SER ARG VAL GLU LYS LEU HIS LEU SER HIS ASN LYS LEU LYS GLU ILE

PRO PRO GLU ILE GLY CYS LEU GLU ASN LEU THR SER LEU ASP VAL SER TYR ASN LEU GLU LEU ARG SER PHE PRO ASN GLU MET GLY LYS LEU SER LYS ILE TRP ASP LEU PRO LEU ASP GLU LEU HIS LEU ASN PHE ASP PHE LYS HIS ILE GLY CYS LYS ALA LYS ASP ILE ILE ARG

PHE LEU GLN GLN ARG LEU LYS LYS ALA VAL PRO Y1332 S1422 K1423 G1424 Q1425 A1426 E1427 V1428 D1429 F1436 H1453 C1465 K1471 E1472 R1477 R1514 ASP GLN LEU VAL VAL GLY GLN LEU ILE P1524 D1565 E1566 N1567 E1568 L1569 P1570 H1574 F1575 G1580 L1590 P1622

V1669 PRO SER SER LEU SER ASP HIS ARG PRO VAL ILE GLU LEU PRO HIS CYS GLU ASN SER GLU I1690 I1691 I1692 R1693 P1701 M1702 G1703 F1704 W1705 S1706 R1707 L1708 I1709 S1716 P1717 Y1718 M1719 G1722 R1725 A1726 L1727 R1728 P1729 N1730 R1735 L1740 S1743 A1746 Y1747 C1748

V1754 T1766 E1789 E1790 W1791 C1801 T1806 L1807 L1808 K1809 K1810 W1811 G1819 E1836 G1837 ASP LEU LEU VAL ASN PRO ASP GLN PRO ARG LEU THR ILE PRO ILE SER GLN ILE ALA PRO ASP LEU ILE LEU ALA ASP LEU PRO ARG ASN ILE MET LEU ASN ASN ASP GLU LEU

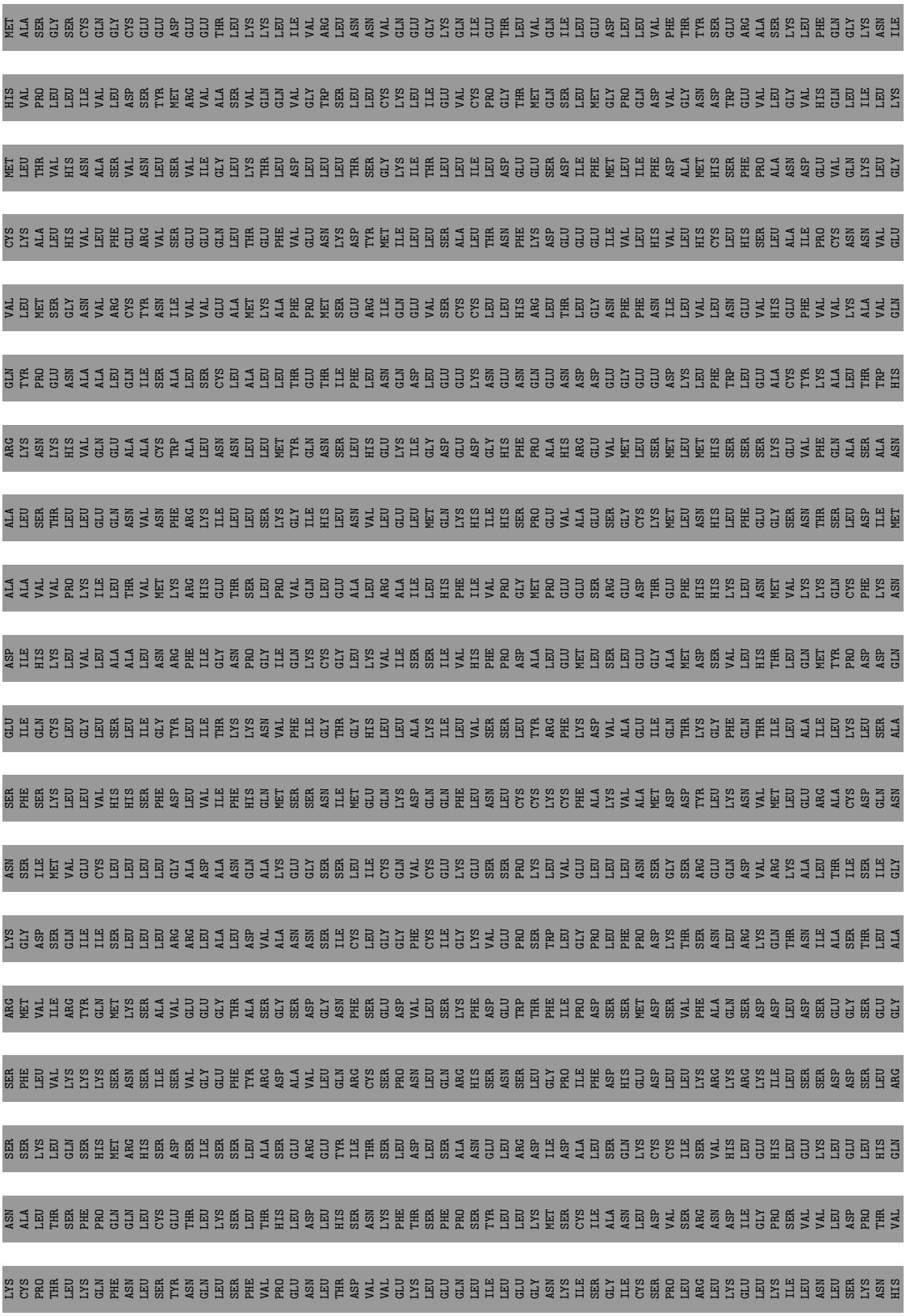
GLU PHE GLU GLN ALA PRO GLU F1883 G2028 A2044 R2045 G2046 N2047 L2077 K2078 F2079 P2080 N2118 A2135 GLU LEU VAL CYS LEU THR R2142 T2158 HIS HIS ASN SER ARG N2164 F2253 SER LYS GLN SER LYS Q2254 E2305 SER THR ASN SER THR GLU ARG ASN V2314 E2395

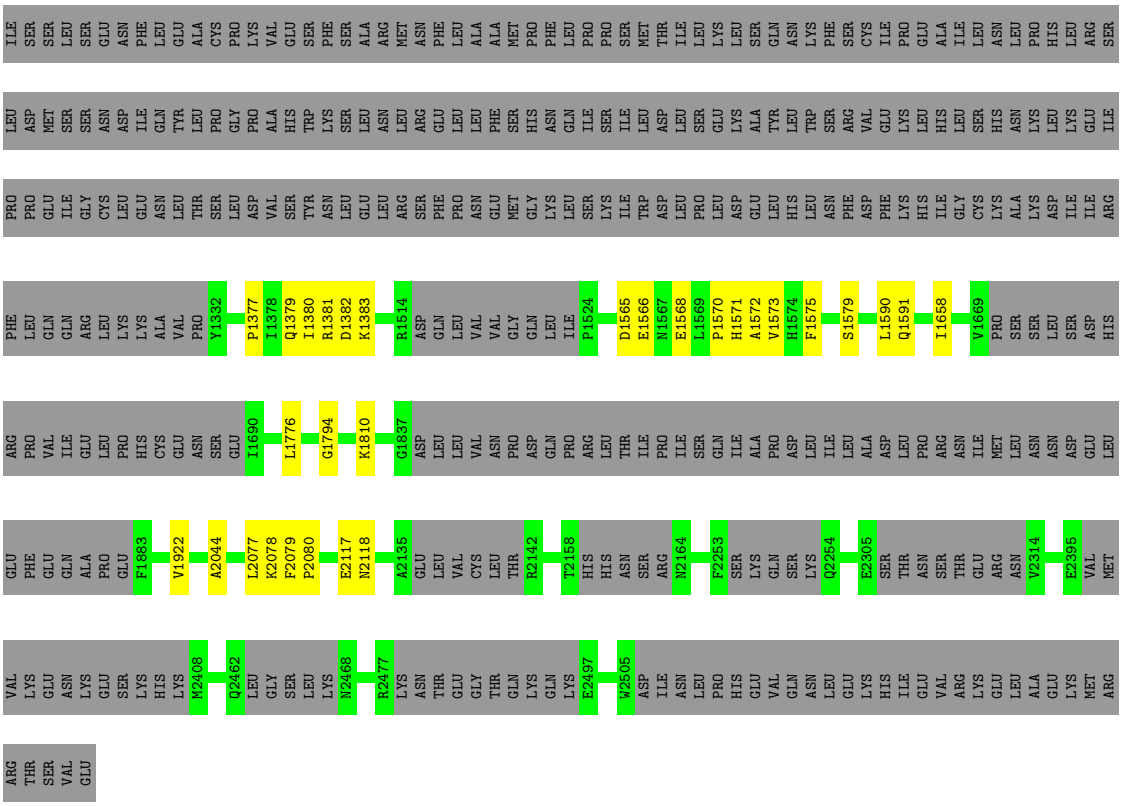
VAL MET VAL LYS GLU ASN LYS GLU SER LYS HIS LYS M2408 Q2462 LEU GLY SER LEU LYS N2468 R2477 LYS ASN THR GLU GLY THR GLN LYS GLN LYS E2497 W2505 ASP ILE ASN LEU PRO HIS GLU VAL GLN ASN LEU GLU LYS HIS ILE GLU VAL ARG LYS GLU LEU ALA GLU LYS

MET ARG ARG THR SER VAL GLU

• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

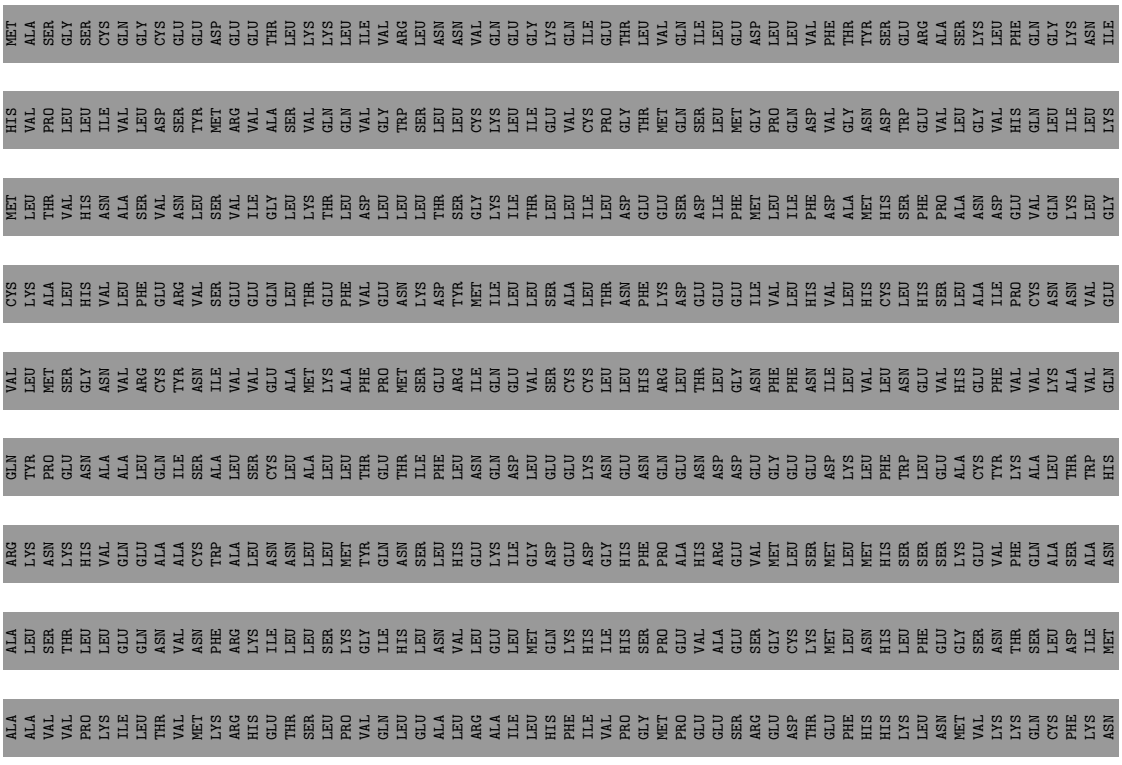
Chain 42-A: 40% 59%

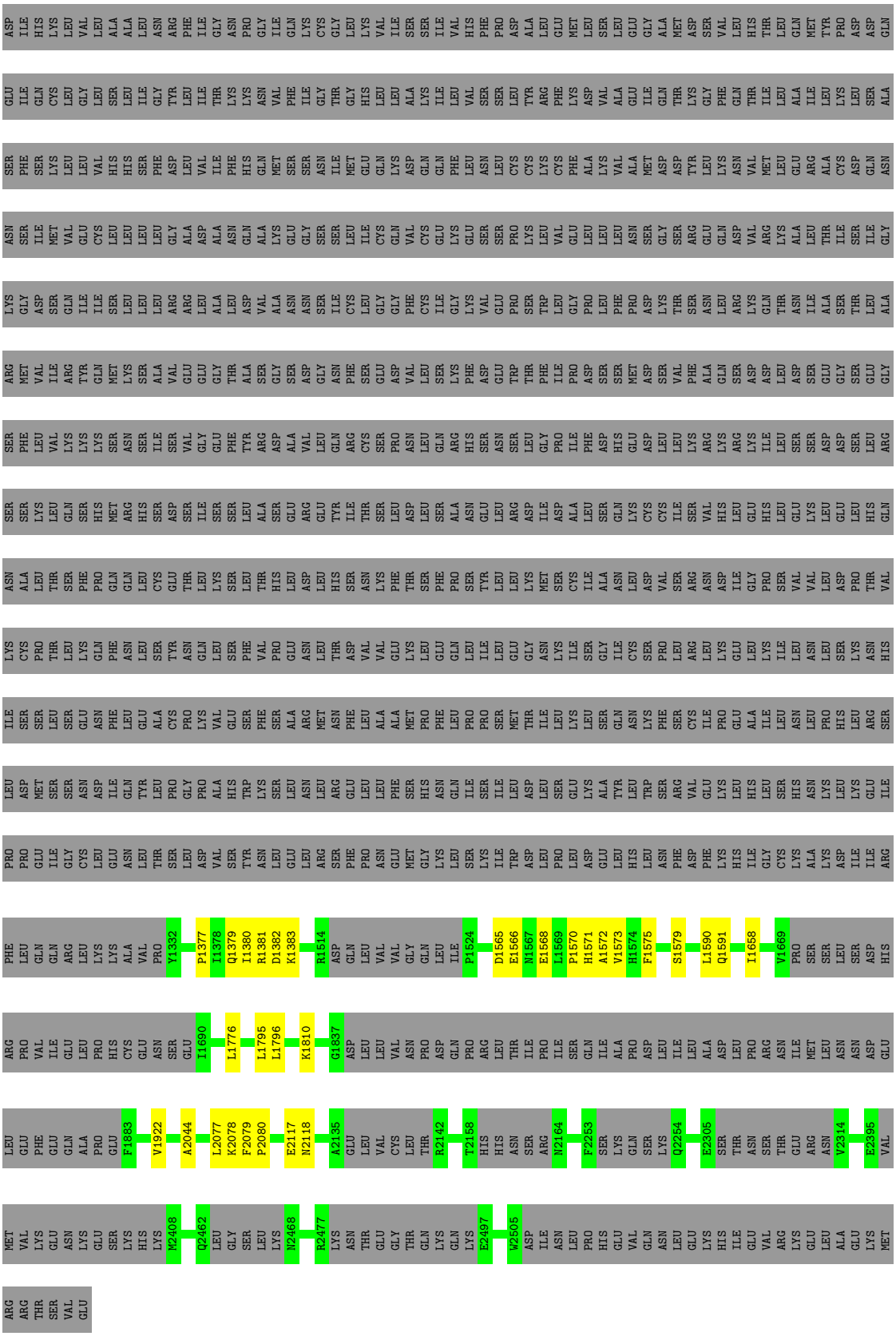




• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

Chain 42-B:





• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

Chain 43-A:

MET ALA SER GLY SER CYS GLN GLY CYS GLU GLU ASP GLU GLU THR LEU LYS LYS LEU ILE VAL ARG LEU ASN ASN VAL GLN GLU GLY LYS GLN ILE GLU THR LEU VAL GLN ILE LEU GLU ASP LEU LEU VAL PHE THR TYR SER GLU ARG ALA SER LYS LEU PHE GLN GLY LYS ASN ILE

HIS VAL PRO LEU LEU ILE VAL LEU ASP SER TYR MET ARG VAL ALA SER VAL GLN GLN VAL GLY TRP SER LEU LEU CYS LYS LEU ILE GLU VAL CYS PRO GLY THR MET GLN SER LEU MET GLY PRO GLN ASP VAL GLY ASN ASP TRP GLU VAL LEU GLY VAL HIS GLN LEU ILE LEU LYS

MET LEU THR VAL HIS ASN ALA SER VAL ASN LEU SER VAL ILE GLY LEU LYS THR LEU ASP LEU LEU LEU THR SER GLY LYS ILE THR LEU LEU ILE LEU ASP GLU GLU SER ASP ILE PHE MET LEU ILE PHE ASP ALA MET HIS SER PHE PRO ALA ASN ASP GLU VAL GLN LYS LEU GLY

CYS LYS ALA LEU HIS VAL LEU PHE GLU ARG VAL SER GLU GLU GLN LEU THR GLU PHE VAL GLU ASN LYS ASP TYR MET ILE LEU LEU SER ALA LEU THR ASN PHE LYS ASP GLU GLU GLU ILE VAL LEU HIS VAL LEU HIS CYS LEU HIS SER LEU ALA ILE PRO CYS ASN ASN VAL GLU

VAL LEU MET SER GLY ASN VAL ARG CYS TYR ASN ILE VAL VAL GLU ALA MET LYS ALA PHE PRO MET SER GLU ARG ILE GLN GLU VAL SER CYS CYS LEU LEU HIS ARG LEU THR LEU GLY ASN PHE PHE ASN ILE LEU VAL LEU ASN GLU VAL HIS GLU PHE VAL VAL LYS ALA VAL GLN

GLN TYR PRO GLU ASN ALA ALA LEU GLN ILE SER ALA LEU SER CYS LEU ALA LEU LEU THR GLU THR ILE PHE LEU ASN GLN ASP LEU GLU GLU LYS ASN GLU ASN GLN GLU ASN ASP ASP GLU GLY GLU GLU ASP LYS LEU PHE TRP LEU GLU ALA CYS TYR LYS ALA LEU THR TRP HIS

ARG LYS ASN LYS HIS VAL GLN GLU ALA ALA CYS TRP ALA LEU ASN ASN LEU LEU MET TYR GLN ASN SER LEU HIS GLU LYS ILE GLY ASP GLU ASP GLY HIS PHE PRO ALA HIS ARG GLU VAL MET LEU SER MET LEU MET HIS SER SER SER LYS GLU VAL PHE GLN ALA SER ALA ASN

ALA LEU SER THR LEU LEU GLU GLN ASN VAL ASN PHE ARG LYS ILE LEU LEU SER LYS GLY ILE HIS LEU ASN VAL LEU GLU LEU MET GLN LYS HIS ILE HIS SER PRO GLU VAL ALA GLU SER GLY CYS LYS MET LEU ASN HIS LEU PHE GLU GLY SER ASN THR SER LEU ASP ILE MET

ALA ALA VAL VAL PRO LYS ILE LEU THR VAL MET LYS ARG HIS GLU THR SER LEU PRO VAL GLN LEU GLU ALA LEU ARG ALA ILE LEU HIS PHE ILE VAL PRO GLY MET PRO GLU GLU SER ARG GLU ASP THR GLU PHE HIS HIS LYS LEU ASN MET VAL LYS LYS GLN CYS PHE LYS ASN

ASP ILE HIS LYS LEU VAL LEU ALA ALA LEU ASN ARG PHE ILE GLY ASN PRO GLY ILE GLN LYS CYS GLY LEU LYS VAL ILE SER SER ILE VAL HIS PHE PRO ASP ALA LEU GLU MET LEU SER LEU GLU GLY ALA MET ASP SER VAL LEU HIS THR LEU GLN MET TYR PRO ASP ASP GLN

GLU ILE GLN CYS LEU GLY LEU SER LEU ILE GLY TYR LEU ILE THR LYS LYS ASN VAL PHE ILE GLY THR GLY HIS LEU LEU ALA LYS ILE LEU VAL SER SER LEU TYR ARG PHE LYS ASP VAL ALA GLU ILE GLN THR LYS GLY PHE GLN THR ILE LEU ALA ILE LEU LYS LEU SER ALA

SER PHE SER LYS LEU LEU VAL HIS HIS SER PHE ASP LEU VAL ILE PHE HIS GLN MET SER SER ASN ILE MET GLU GLN LYS ASP GLN GLN PHE LEU ASN LEU CYS CYS LYS CYS PHE ALA LYS VAL ALA MET ASP ASP TYR LEU LYS ASN VAL MET LEU GLU ARG ALA CYS ASP GLN ASN

ASN SER ILE MET VAL GLU CYS LEU LEU LEU LEU GLY ALA ASP ALA ASN GLN ALA LYS GLU GLY SER SER LEU ILE CYS GLN VAL CYS GLU LYS GLU SER SER PRO LYS LEU VAL GLU LEU LEU LEU ASN SER GLY SER ARG GLU GLN ASP VAL ARG LYS ALA LEU THR ILE SER ILE GLY

LYS GLY ASP SER GLN ILE ILE SER LEU LEU LEU ARG ARG LEU ALA LEU ASP VAL ALA ASN ASN SER ILE CYS LEU GLY GLY PHE CYS ILE GLY LYS VAL GLU PRO SER TRP LEU GLY PRO LEU PHE PRO ASP LYS THR SER ASN LEU ARG LYS GLN THR ASN ILE ALA SER THR LEU ALA

ARG MET VAL ILE ARG TYR GLN MET LYS SER ALA VAL GLU GLU GLY THR ALA SER GLY SER ASP GLY ASN PHE SER GLU ASP VAL LEU SER LYS PHE ASP GLU TRP THR PHE ILE PRO ASP SER SER MET ASP SER VAL PHE ALA GLN SER ASP ASP LEU ASP SER GLU GLY SER GLU GLY

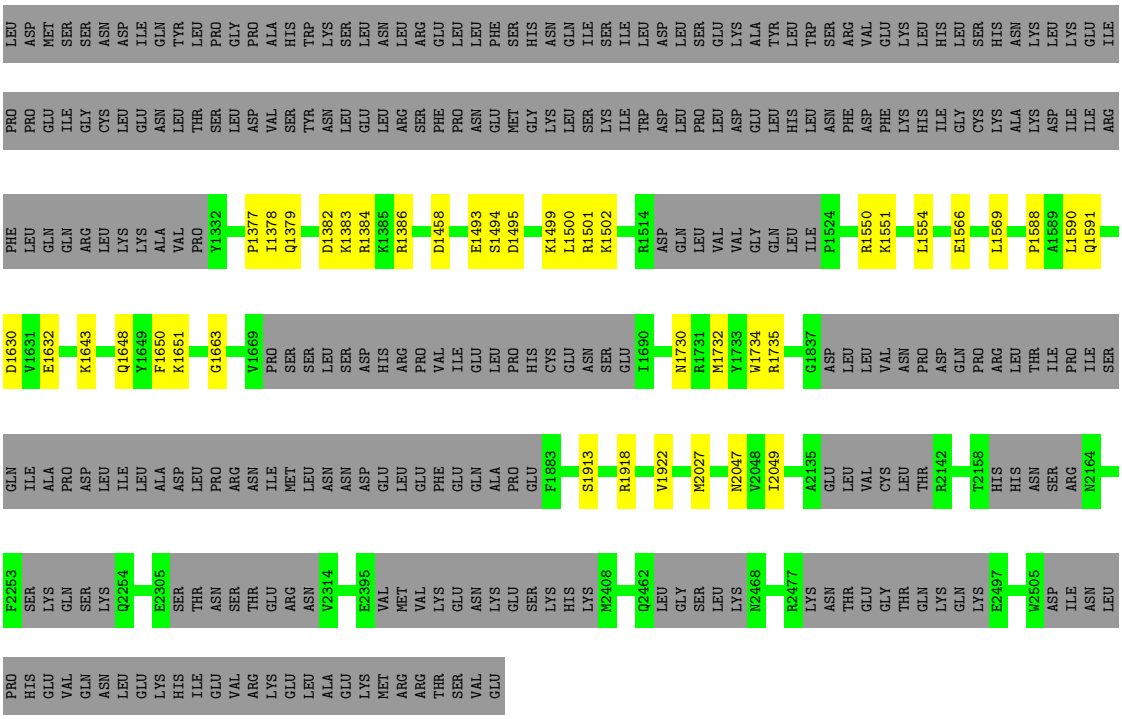
SER PHE LEU VAL LYS LYS LYS SER ASN SER ILE SER VAL GLY GLU PHE TYR ARG ASP ALA VAL LEU GLN ARG CYS SER PRO ASN LEU GLN ARG HIS SER ASN SER LEU GLY PRO ILE PHE ASP HIS GLU ASP LEU LEU LYS ARG LYS ARG LYS ILE LEU SER SER ASP ASP SER LEU ARG

SER SER LYS LEU GLN SER HIS MET ARG HIS SER ASP SER ILE SER SER LEU ALA SER GLU ARG GLU TYR ILE THR SER LEU ASP LEU SER ALA ASN GLU LEU ARG ASP ILE ASP ALA LEU SER GLN LYS CYS CYS ILE SER VAL HIS LEU GLU HIS LEU GLU LYS LEU GLU LEU HIS GLN

ASN ALA LEU THR SER PHE PRO GLN GLN LEU CYS GLU THR LEU LYS SER LEU THR HIS LEU ASP LEU HIS SER ASN LYS PHE THR SER PHE PRO SER TYR LEU LEU LYS MET SER CYS ILE ALA ASN LEU ASP VAL SER ARG ASN ASP ILE GLY PRO SER VAL VAL LEU ASP PRO THR VAL

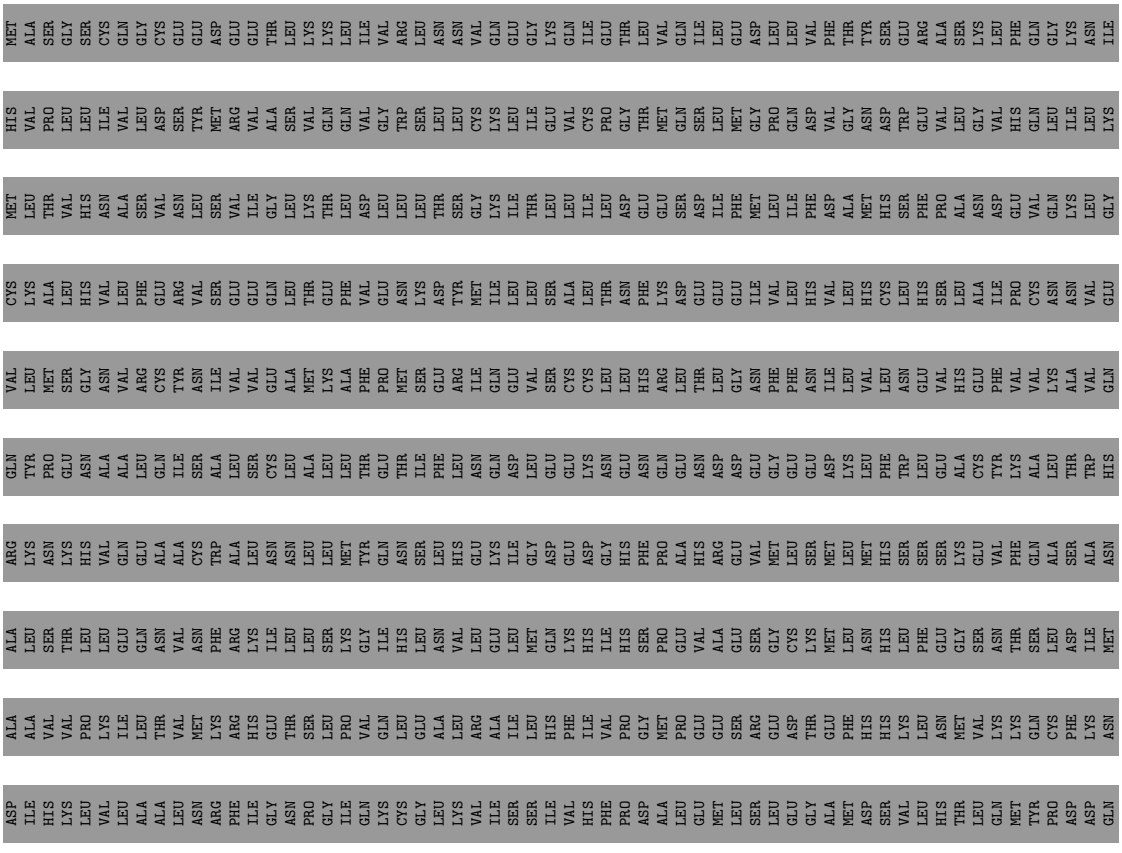
LYS CYS PRO THR LEU LYS GLN PHE ASN LEU SER TYR ASN GLN LEU SER PHE VAL PRO GLU ASN LEU THR ASP VAL VAL GLU LYS LEU GLU GLN LEU ILE LEU GLU GLY ASN LYS ILE SER GLY ILE CYS SER PRO LEU ARG LEU LYS GLU LEU LYS ILE LEU ASN LEU SER LYS ASN HIS

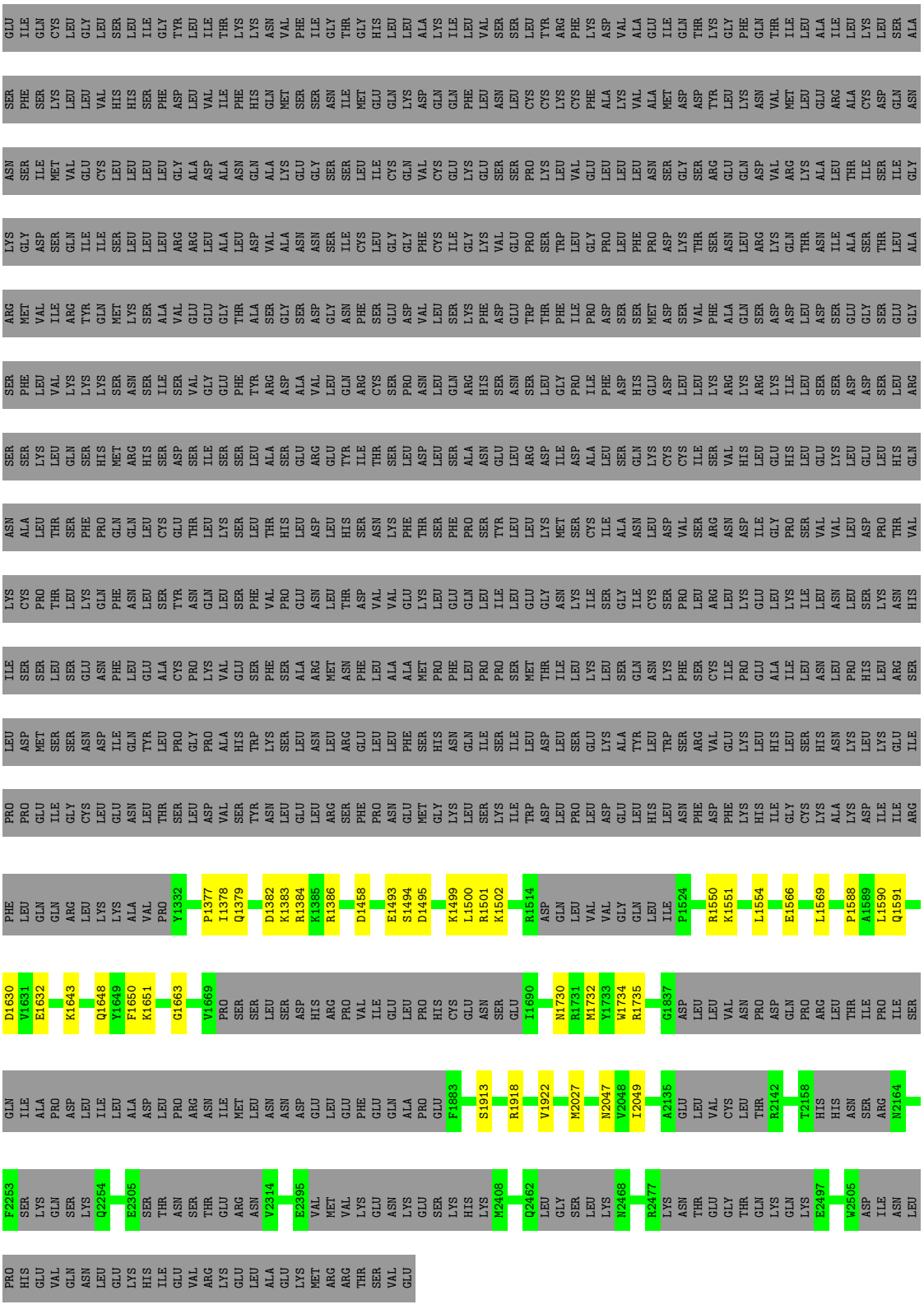
ILE SER SER LEU SER GLU ASN PHE LEU GLU ALA CYS PRO LYS VAL GLU SER PHE SER ALA ARG MET ASN PHE LEU ALA ALA MET PRO PHE LEU PRO PRO SER MET THR ILE LEU LYS LEU SER GLN ASN LYS PHE SER CYS ILE PRO GLU ALA ILE LEU ASN LEU PRO HIS LEU ARG SER



• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

Chain 43-B:





• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

Chain 44-A: 41% 59%

MET ALA SER GLY SER CYS GLN GLY CYS GLU GLU ASP GLU GLU THR LEU LYS LYS LEU ILE VAL ARG LEU ASN ASN VAL GLN GLU GLY LYS GLN ILE GLU THR LEU VAL GLN ILE LEU GLU ASP LEU LEU VAL PHE THR TYR SER GLU ARG ALA SER LYS LEU PHE GLN GLY LYS ASN ILE

HIS VAL PRO LEU LEU ILE VAL LEU ASP SER TYR MET ARG VAL ALA SER VAL GLN GLN VAL GLY TRP SER LEU LEU CYS LYS LEU ILE GLU VAL CYS PRO GLY THR MET GLN SER LEU MET GLY PRO GLN ASP VAL GLY ASN ASP TRP GLU VAL LEU GLY VAL HIS GLN LEU ILE LEU LYS

MET LEU THR VAL HIS ASN ALA SER VAL ASN LEU SER VAL ILE GLY LEU LYS THR LEU ASP LEU LEU LEU THR SER GLY LYS ILE THR LEU LEU ILE LEU ASP GLU GLU SER ASP ILE PHE MET LEU ILE PHE ASP ALA MET HIS SER PHE PRO ALA ASN ASP GLU VAL GLN LYS LEU GLY

CYS LYS ALA LEU HIS VAL LEU PHE GLU ARG VAL SER GLU GLU GLN LEU THR GLU PHE VAL GLU ASN LYS ASP TYR MET ILE LEU LEU SER ALA LEU THR ASN PHE LYS ASP GLU GLU GLU ILE VAL LEU HIS VAL LEU HIS CYS LEU HIS SER LEU ALA ILE PRO CYS ASN ASN VAL GLU

VAL LEU MET SER GLY ASN VAL ARG CYS TYR ASN ILE VAL VAL GLU ALA MET LYS ALA PHE PRO MET SER GLU ARG ILE GLN GLU VAL SER CYS CYS LEU LEU HIS ARG LEU THR LEU GLY ASN PHE PHE ASN ILE LEU VAL LEU ASN GLU VAL HIS GLU PHE VAL VAL LYS ALA VAL GLN

GLN TYR PRO GLU ASN ALA ALA LEU GLN ILE SER ALA LEU SER CYS LEU ALA LEU LEU THR GLU THR ILE PHE LEU ASN GLN ASP LEU GLU GLU LYS ASN GLU ASN GLN GLU ASN ASP ASP GLU GLY GLU GLU ASP LYS LEU PHE TRP LEU GLU ALA CYS TYR LYS ALA LEU THR TRP HIS

ARG LYS ASN LYS HIS VAL GLN GLU ALA ALA CYS TRP ALA LEU ASN ASN LEU LEU MET TYR GLN ASN SER LEU HIS GLU LYS ILE GLY ASP GLU ASP GLY HIS PHE PRO ALA HIS ARG GLU VAL MET LEU SER MET LEU MET HIS SER SER SER LYS GLU VAL PHE GLN ALA SER ALA ASN

ALA LEU SER THR LEU LEU GLU GLN ASN VAL ASN PHE ARG LYS ILE LEU LEU SER LYS GLY ILE HIS LEU ASN VAL LEU GLU LEU MET GLN LYS HIS ILE HIS SER PRO GLU VAL ALA GLU SER GLY CYS LYS MET LEU ASN HIS LEU PHE GLU GLY SER ASN THR SER LEU ASP ILE MET

ALA ALA VAL VAL PRO LYS ILE LEU THR VAL MET LYS ARG HIS GLU THR SER LEU PRO VAL GLN LEU GLU ALA LEU ARG ALA ILE LEU HIS PHE ILE VAL PRO GLY MET PRO GLU GLU SER ARG GLU ASP THR GLU PHE HIS HIS LYS LEU ASN MET VAL LYS LYS GLN CYS PHE LYS ASN

ASP ILE HIS LYS LEU VAL LEU ALA ALA LEU ASN ARG PHE ILE GLY ASN PRO GLY ILE GLN LYS CYS GLY LEU LYS VAL ILE SER SER ILE VAL HIS PHE PRO ASP ALA LEU GLU MET LEU SER LEU GLU GLY ALA MET ASP SER VAL LEU HIS THR LEU GLN MET TYR PRO ASP ASP GLN

GLU ILE GLN CYS LEU GLY LEU SER LEU ILE GLY TYR LEU ILE THR LYS LYS ASN VAL PHE ILE GLY THR GLY HIS LEU LEU ALA LYS ILE LEU VAL SER SER LEU TYR ARG PHE LYS ASP VAL ALA GLU ILE GLN THR LYS GLY PHE GLN THR ILE LEU ALA ILE LEU LYS LEU SER ALA

SER PHE SER LYS LEU LEU VAL HIS HIS SER PHE ASP LEU VAL ILE PHE HIS GLN MET SER SER ASN ILE MET GLU GLN LYS ASP GLN GLN PHE LEU ASN LEU CYS CYS LYS CYS PHE ALA LYS VAL ALA MET ASP ASP TYR LEU LYS ASN VAL MET LEU GLU ARG ALA CYS ASP GLN ASN

ASN SER ILE MET VAL GLU CYS LEU LEU LEU LEU GLY ALA ASP ALA ASN GLN ALA LYS GLU GLY SER SER LEU ILE CYS GLN VAL CYS GLU LYS GLU SER SER PRO LYS LEU VAL GLU LEU LEU LEU ASN SER GLY SER ARG GLU GLN ASP VAL ARG LYS ALA LEU THR ILE SER ILE GLY

LYS GLY ASP SER GLN ILE ILE SER LEU LEU LEU ARG ARG LEU ALA LEU ASP VAL ALA ASN ASN SER ILE CYS LEU GLY GLY PHE CYS ILE GLY LYS VAL GLU PRO SER TRP LEU GLY PRO LEU PHE PRO ASP LYS THR SER ASN LEU ARG LYS GLN THR ASN ILE ALA SER THR LEU ALA

ARG MET VAL ILE ARG TYR GLN MET LYS SER ALA VAL GLU GLU GLY THR ALA SER GLY SER ASP GLY ASN PHE SER GLU ASP VAL LEU SER LYS PHE ASP GLU TRP THR PHE ILE PRO ASP SER SER MET ASP SER VAL PHE ALA GLN SER ASP ASP LEU ASP SER GLU GLY SER GLU GLY

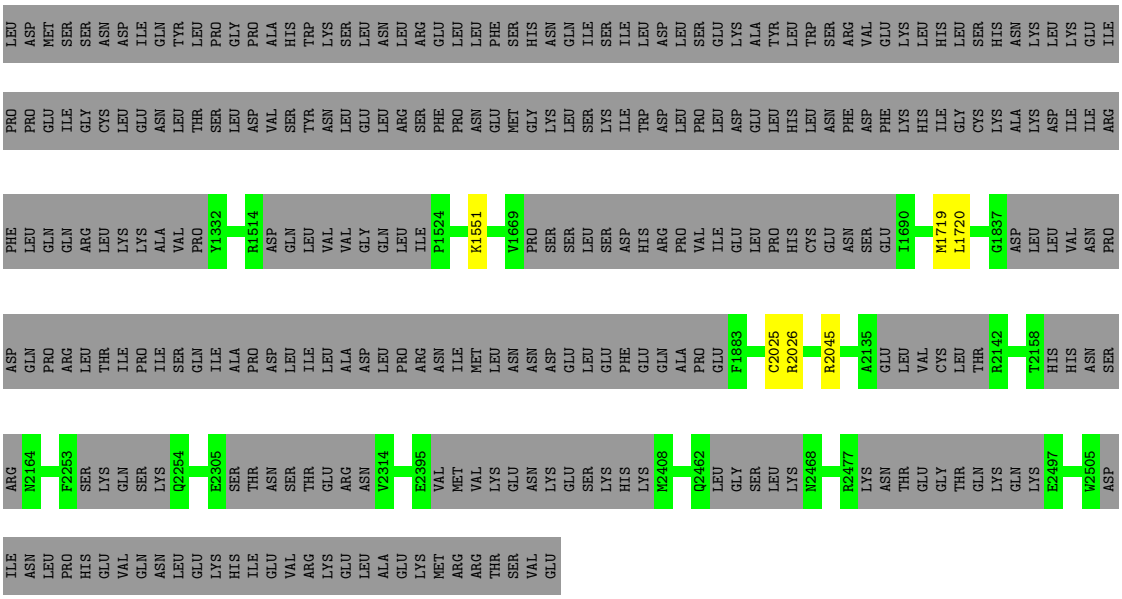
SER PHE LEU VAL LYS LYS LYS SER ASN SER ILE SER VAL GLY GLU PHE TYR ARG ASP ALA VAL LEU GLN ARG CYS SER PRO ASN LEU GLN ARG HIS SER ASN SER LEU GLY PRO ILE PHE ASP HIS GLU ASP LEU LEU LYS ARG LYS ARG LYS ILE LEU SER SER ASP ASP SER LEU ARG

SER SER LYS LEU GLN SER HIS MET ARG HIS SER ASP SER ILE SER SER LEU ALA SER GLU ARG GLU TYR ILE THR SER LEU ASP LEU SER ALA ASN GLU LEU ARG ASP ILE ASP ALA LEU SER GLN LYS CYS CYS ILE SER VAL HIS LEU GLU HIS LEU GLU LYS LEU GLU LEU HIS GLN

ASN ALA LEU THR SER PHE PRO GLN GLN LEU CYS GLU THR LEU LYS SER LEU THR HIS LEU ASP LEU HIS SER ASN LYS PHE THR SER PHE PRO SER TYR LEU LEU LYS MET SER CYS ILE ALA ASN LEU ASP VAL SER ARG ASN ASP ILE GLY PRO SER VAL VAL LEU ASP PRO THR VAL

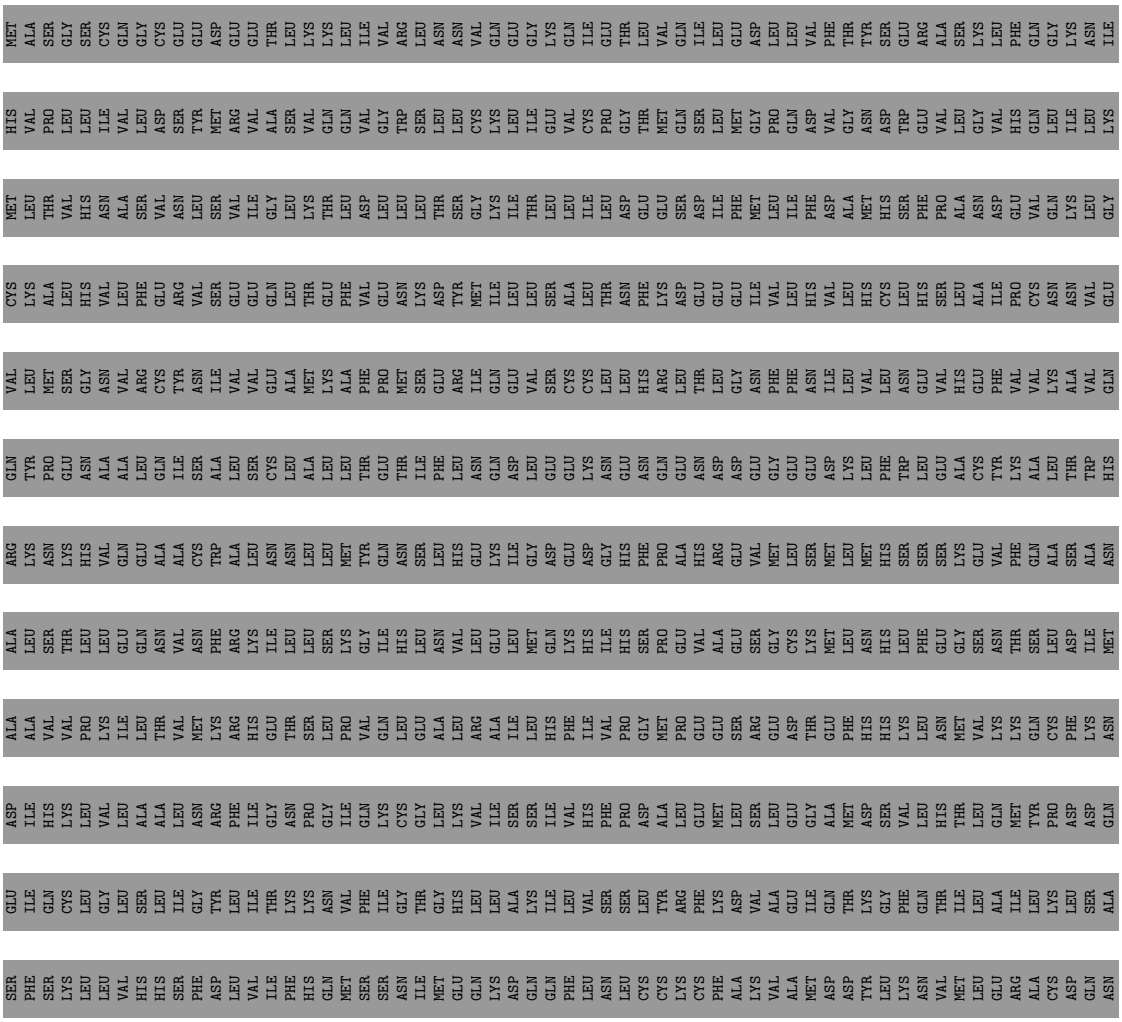
LYS CYS PRO THR LEU LYS GLN PHE ASN LEU SER TYR ASN GLN LEU SER PHE VAL PRO GLU ASN LEU THR ASP VAL VAL GLU LYS LEU GLU GLN LEU ILE LEU GLU GLY ASN LYS ILE SER GLY ILE CYS SER PRO LEU ARG LEU LYS GLU LEU LYS ILE LEU ASN LEU SER LYS ASN HIS

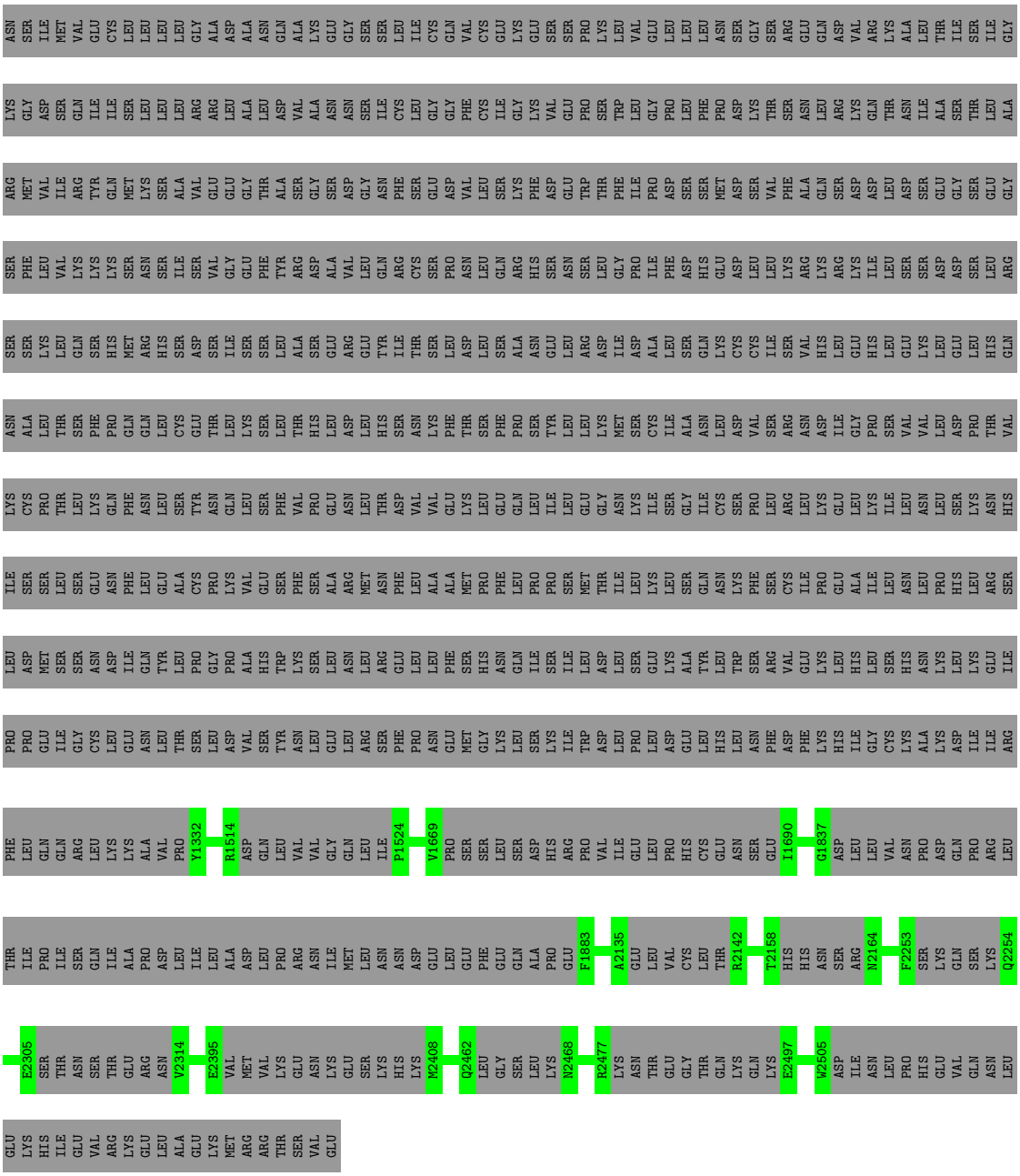
ILE SER SER LEU SER GLU ASN PHE LEU GLU ALA CYS PRO LYS VAL GLU SER PHE SER ALA ARG MET ASN PHE LEU ALA ALA MET PRO PHE LEU PRO PRO SER MET THR ILE LEU LYS LEU SER GLN ASN LYS PHE SER CYS ILE PRO GLU ALA ILE LEU ASN LEU PRO HIS LEU ARG SER



• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

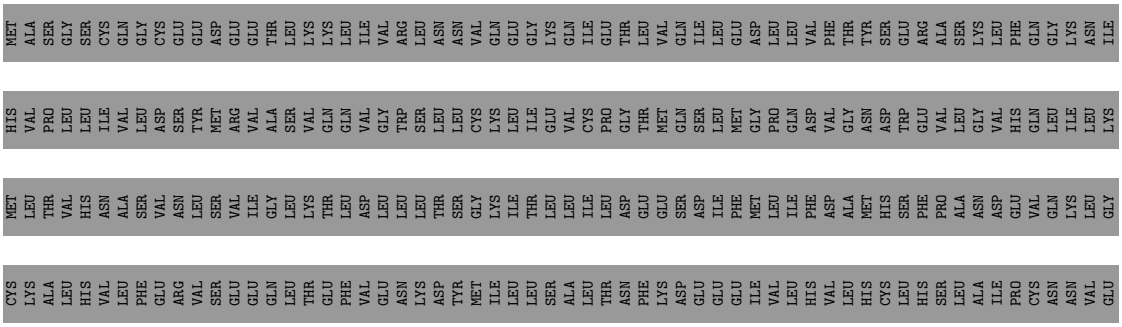
Chain 44-B:

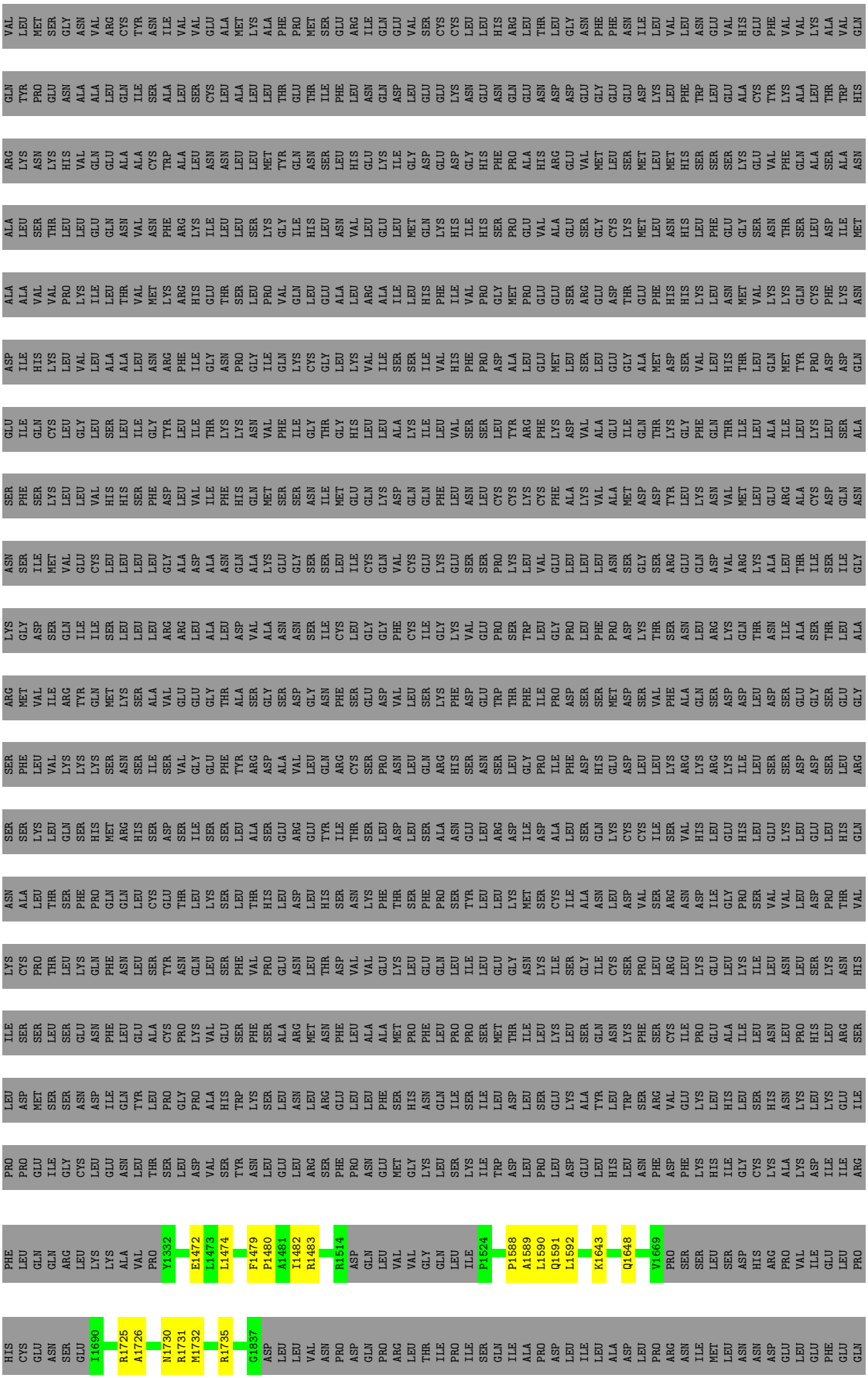




• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

Chain 45-A:

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L1473
L1474
F1479
P1480
A1481
I1482
R1483
R1514
P1524
P1588
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L1590
Q1591
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A1726
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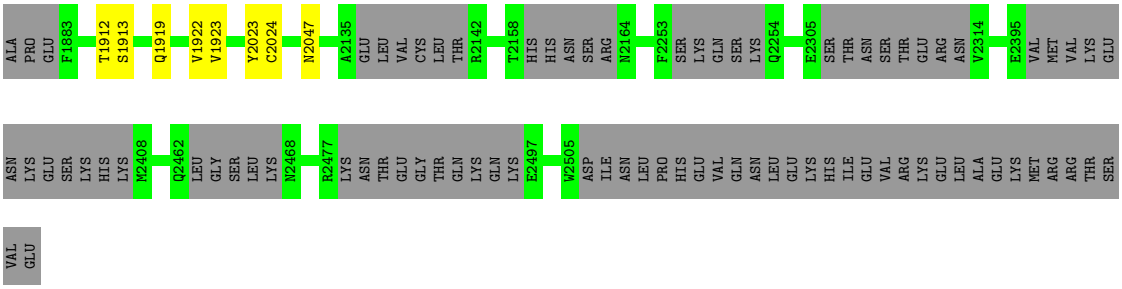
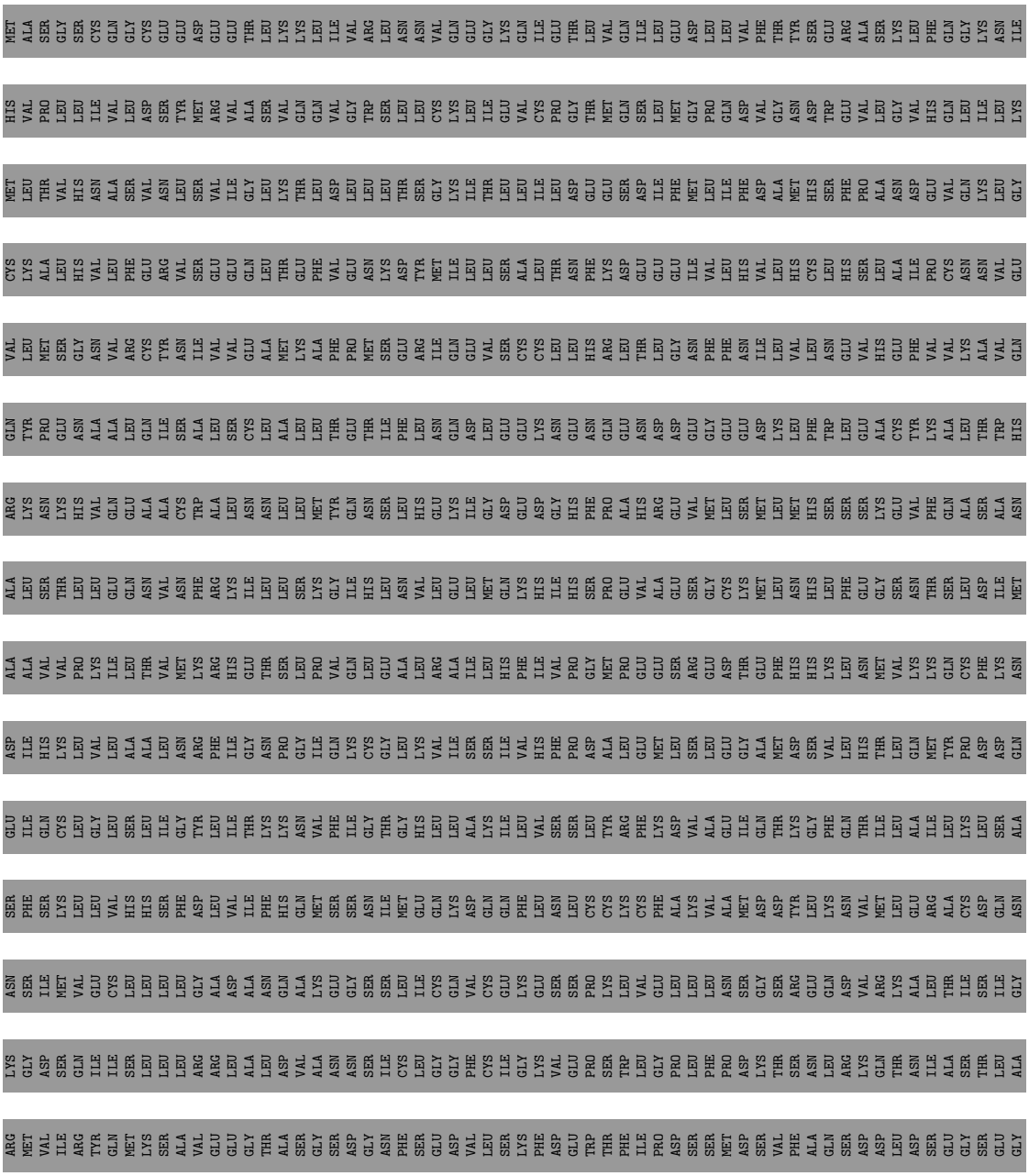
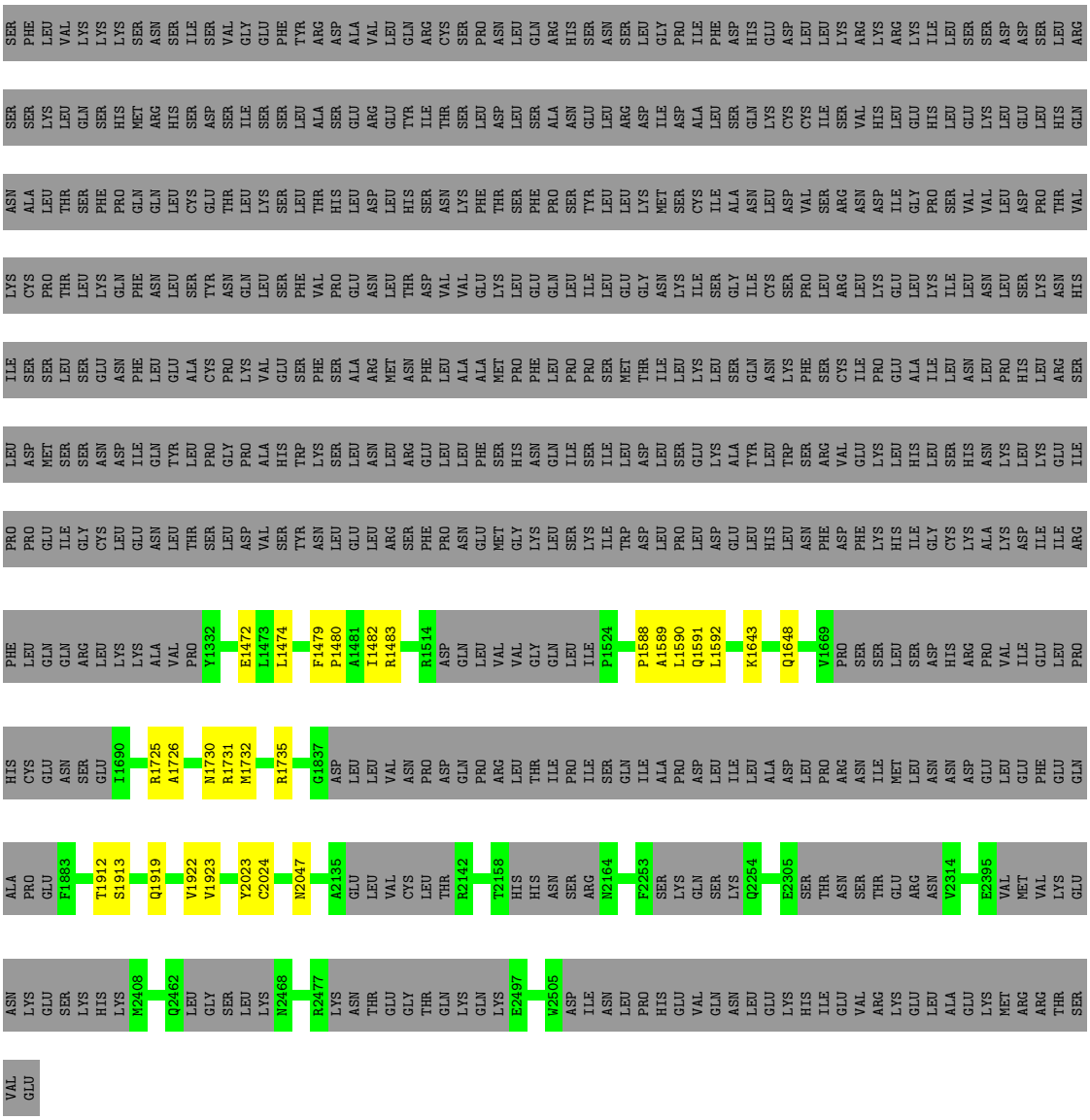
R1731
M1732
R1735
G1837



• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

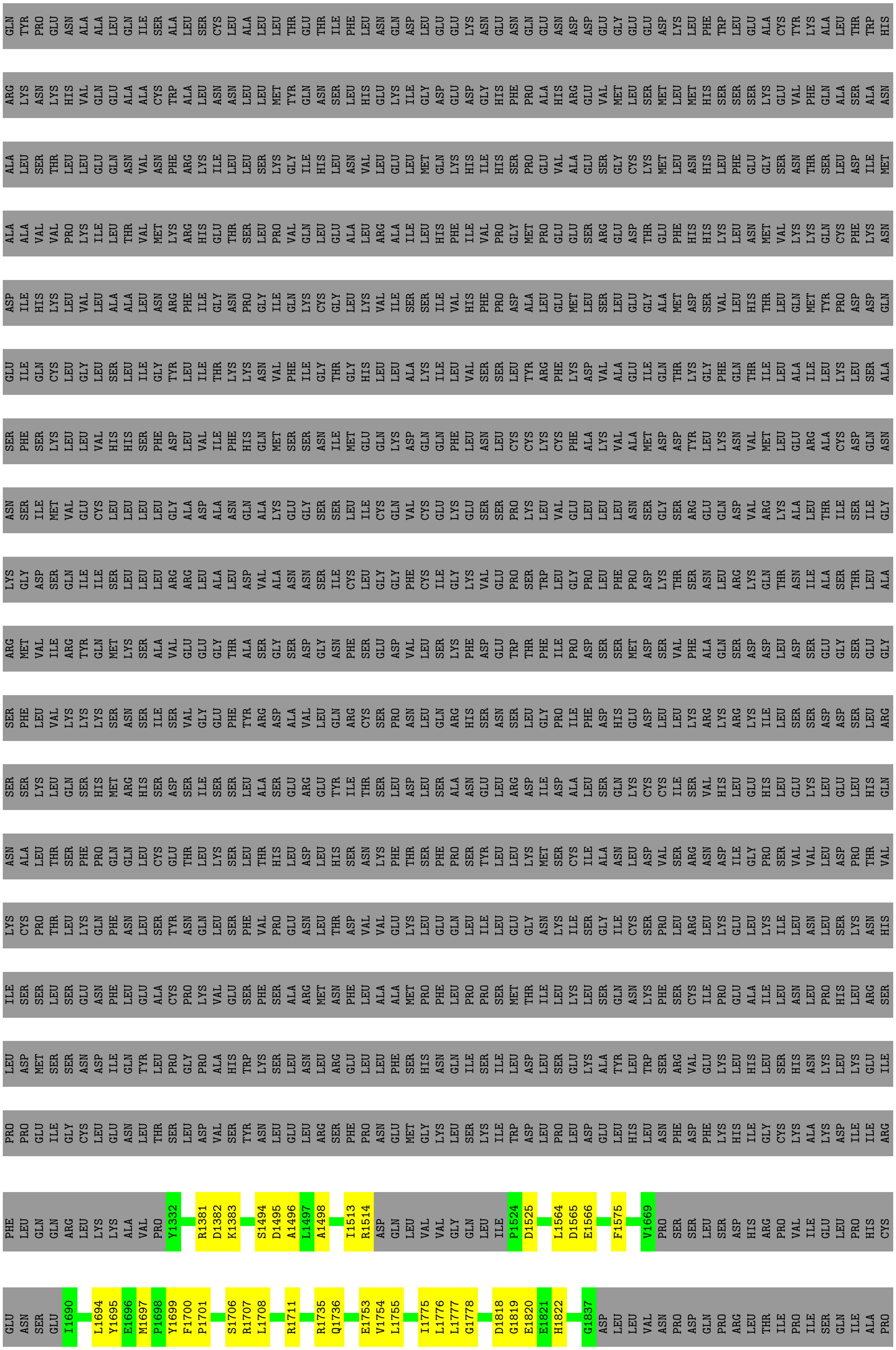
Chain 45-B: 

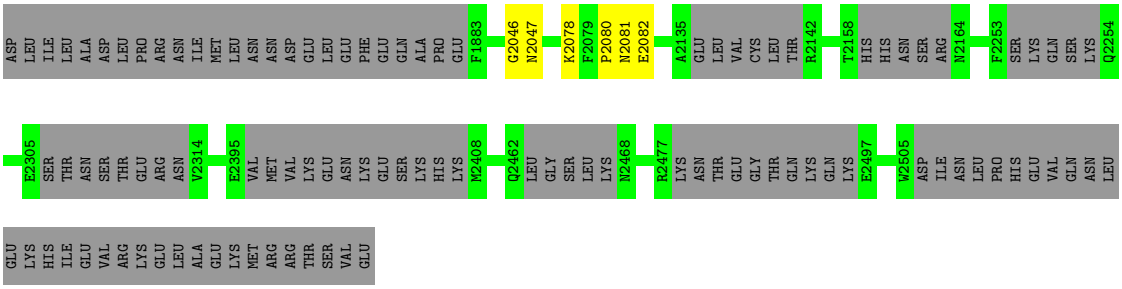




• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

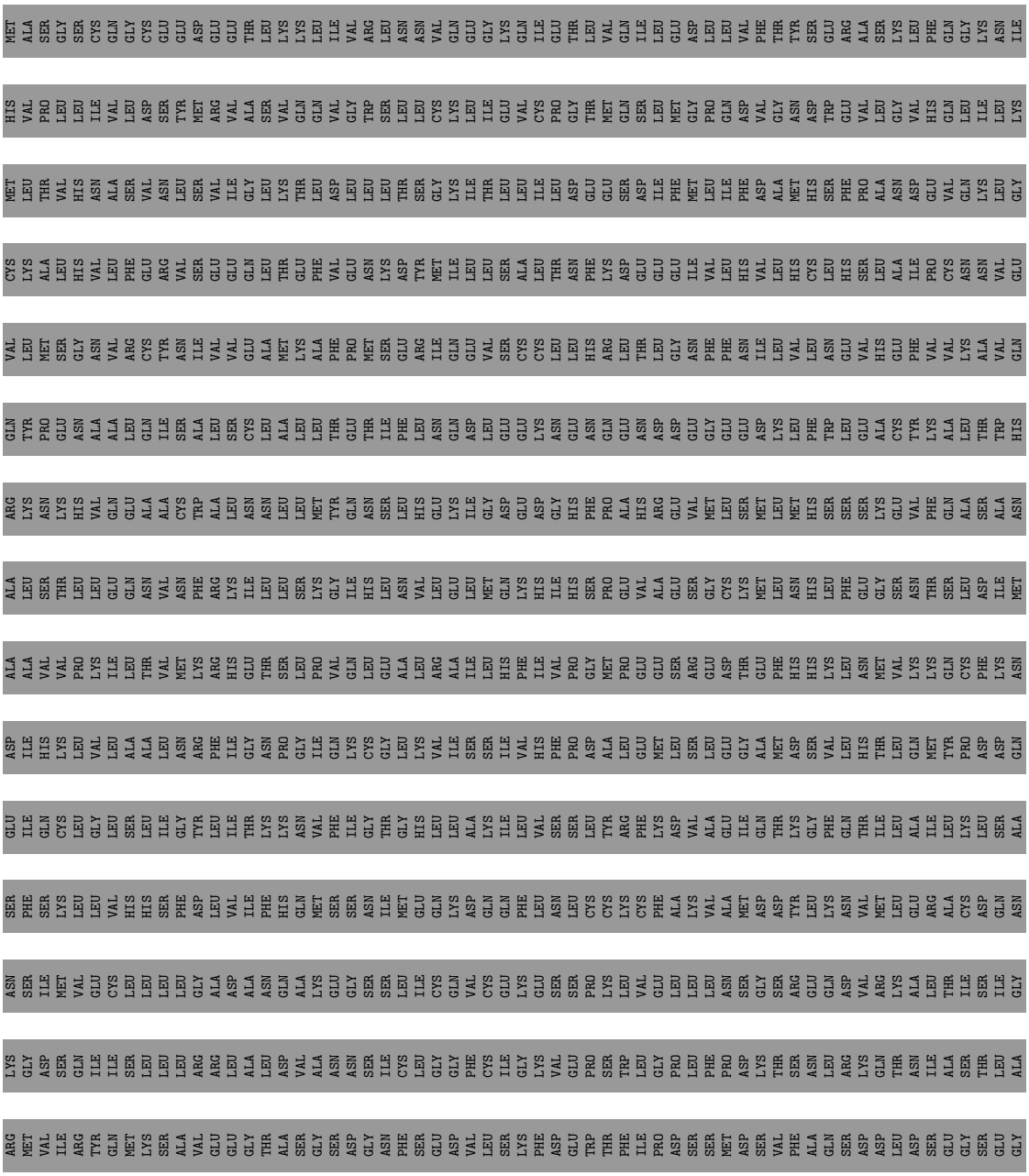
Chain 46-A:

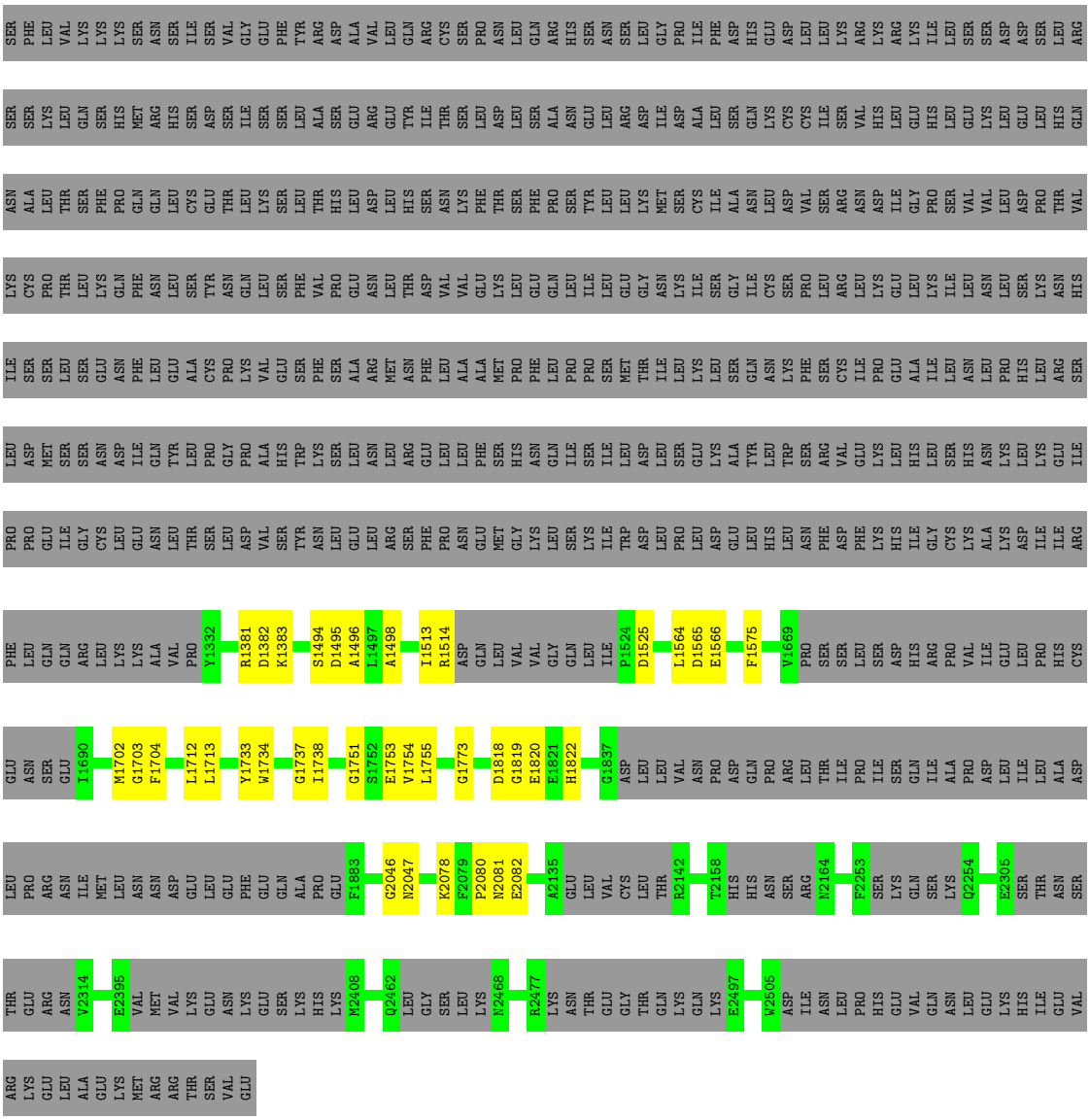

GLN TYR PRO GLU ASN ALA ALA LEU GLN ILE SER ALA LEU SER CYS LEU ALA LEU LEU THR GLU THR ILE PHE LEU ASN GLN ASP LEU GLU GLU LYS ASN GLU ASN GLN GLU ASN ASP ASP GLU GLY GLU GLU ASP LYS LEU PHE TRP LEU GLU ALA CYS TYR LYS ALA LEU THR TRP HIS
ARG LYS ASN LYS HIS VAL GLN GLU ALA ALA CYS TRP ALA LEU ASN ASN LEU LEU MET TYR GLN ASN SER LEU HIS GLU LYS ILE GLY ASP GLU ASP GLY HIS PHE PRO ALA HIS ARG GLU VAL MET LEU SER MET LEU MET HIS SER SER SER LYS GLU VAL PHE GLN ALA SER ALA ASN
ALA LEU SER THR LEU LEU GLU GLN ASN VAL ASN PHE ARG LYS ILE LEU LEU SER LYS GLY ILE HIS LEU ASN VAL LEU GLU LEU MET GLN LYS HIS ILE HIS SER PRO GLU VAL ALA GLU SER GLY CYS LYS MET LEU ASN HIS LEU PHE GLU GLY SER ASN THR SER LEU ASP ILE MET
ALA ALA VAL VAL PRO LYS ILE LEU THR VAL MET LYS ARG HIS GLU THR SER LEU PRO VAL GLN LEU GLU ALA LEU ARG ALA ILE LEU HIS PHE ILE VAL PRO GLY MET PRO GLU GLU SER ARG GLU ASP THR GLU PHE HIS HIS LYS LEU ASN MET VAL LYS LYS GLN CYS PHE LYS ASN
ASP ILE HIS LYS LEU VAL LEU ALA ALA LEU ASN ARG PHE ILE GLY ASN PRO GLY ILE GLN LYS CYS GLY LEU LYS VAL ILE SER SER ILE VAL HIS PHE PRO ASP ALA LEU GLU MET LEU SER LEU GLU GLY ALA MET ASP SER VAL LEU HIS THR LEU GLN MET TYR PRO ASP ASP GLN
GLU ILE GLN CYS LEU GLY LEU SER LEU ILE GLY TYR LEU ILE THR LYS LYS ASN VAL PHE ILE GLY THR GLY HIS LEU LEU ALA LYS ILE LEU VAL SER SER LEU TYR ARG PHE LYS ASP VAL ALA GLU ILE GLN THR LYS GLY PHE GLN THR ILE LEU ALA ILE LEU LYS LEU SER ALA
SER PHE SER LYS LEU LEU VAL HIS HIS SER PHE ASP LEU VAL ILE PHE HIS GLN MET SER SER ASN ILE MET GLU GLN LYS ASP GLN GLN PHE LEU ASN LEU CYS CYS LYS CYS PHE ALA LYS VAL ALA MET ASP ASP TYR LEU LYS ASN VAL MET LEU GLU ARG ALA CYS ASP GLN ASN
ASN SER ILE MET VAL GLU CYS LEU LEU LEU LEU GLY ALA ASP ALA ASN GLN ALA LYS GLU GLY SER SER LEU ILE CYS GLN VAL CYS GLU LYS GLU SER SER PRO LYS LEU VAL GLU LEU LEU ASN SER GLY SER ARG GLU GLN ASP VAL ARG LYS ALA LEU THR ILE SER ILE GLY
LYS GLY ASP SER GLN ILE ILE SER LEU LEU LEU ARG ARG LEU ALA LEU ASP VAL ALA ASN ASN SER ILE CYS LEU GLY GLY PHE CYS ILE GLY LYS VAL GLU PRO SER TRP LEU GLY PRO LEU PHE PRO ASP LYS THR SER ASN LEU ARG LYS GLN THR ASN ILE ALA SER THR LEU ALA
ARG MET VAL ILE ARG TYR GLN MET LYS SER ALA VAL GLU GLU GLY THR ALA SER GLY SER ASP GLY ASN PHE SER GLU ASP VAL LEU SER LYS PHE ASP GLU TRP THR PHE ILE PRO ASP SER SER MET ASP SER VAL PHE ALA GLN SER ASP ASP LEU ASP SER GLU GLY SER GLU GLY
SER PHE LEU VAL LYS LYS LYS SER ASN SER ILE SER VAL GLY GLU PHE TYR ARG ASP ALA VAL LEU GLN ARG CYS SER PRO ASN LEU GLN ARG HIS SER ASN SER LEU GLY PRO ILE PHE ASP HIS GLU ASP LEU LEU LYS ARG LYS ARG LYS ILE LEU SER SER ASP ASP SER LEU ARG
SER SER LYS LEU GLN SER HIS MET ARG HIS SER ASP SER ILE SER SER LEU ALA SER GLU ARG GLU TYR ILE THR SER LEU ASP LEU SER ALA ASN GLU LEU ARG ASP ILE ASP ALA LEU SER GLN LYS CYS CYS ILE SER VAL HIS LEU GLU HIS LEU GLU LYS LEU GLU LEU HIS GLN
ASN ALA LEU THR SER PHE PRO GLN GLN LEU CYS GLU THR LEU LYS SER LEU THR HIS LEU ASP LEU HIS SER ASN LYS PHE THR SER PHE PRO SER TYR LEU LEU LYS MET SER CYS ILE ALA ASN LEU ASP VAL SER ARG ASN ASP ILE GLY PRO SER VAL VAL LEU ASP PRO THR VAL
LYS CYS PRO THR LEU LYS GLN PHE ASN LEU SER TYR ASN GLN LEU SER PHE VAL PRO GLU ASN LEU THR ASP VAL VAL GLU LYS LEU GLU GLN LEU ILE LEU GLU GLY ASN LYS ILE SER GLY ILE CYS SER PRO LEU ARG LEU LYS GLU LEU LYS ILE LEU ASN LEU SER LYS ASN HIS
ILE SER SER LEU SER GLU ASN PHE LEU GLU ALA CYS PRO LYS VAL GLU SER PHE SER ALA ARG MET ASN PHE LEU ALA ALA MET PRO PHE LEU PRO PRO SER MET THR ILE LEU LYS LEU SER GLN ASN LYS PHE SER CYS ILE PRO GLU ALA ILE LEU ASN LEU PRO HIS LEU ARG SER
LEU ASP MET SER SER ASN ASP ILE GLN TYR LEU PRO GLY PRO ALA HIS TRP LYS SER LEU ASN LEU ARG GLU LEU LEU PHE SER HIS ASN GLN ILE SER ILE LEU ASP LEU SER GLU LYS ALA TYR LEU TRP SER ARG VAL GLU LYS LEU HIS LEU SER HIS ASN LYS LEU LYS GLU ILE
PRO PRO GLU ILE GLY CYS LEU GLU ASN LEU THR SER LEU ASP VAL SER TYR ASN LEU GLU LEU ARG SER PHE PRO ASN GLU MET GLY LYS LEU SER LYS ILE TRP ASP LEU PRO LEU ASP GLU LEU HIS LEU ASN PHE ASP PHE LYS HIS ILE GLY CYS LYS ALA LYS ASP ILE ILE ARG
PHE LEU GLN GLN ARG LEU LYS LYS ALA VAL PRO Y1332 R1381 D1382 K1383 S1494 D1495 A1496 L1497 A1498 I1513 R1514 ASP GLN LEU VAL VAL GLY GLN LEU ILE P1524 D1525 L1564 D1565 E1566 F1575 V1669 PRO SER SER LEU SER ASP HIS ARG PRO VAL ILE GLU LEU PRO HIS CYS
GLU ASN SER GLU I1690 L1694 Y1695 E1696 M1697 P1698 Y1699 F1700 P1701 S1706 R1707 L1708 R1711 R1735 Q1736 E1753 V1754 L1755 I1775 L1776 L1777 G1778 D1818 G1819 E1820 E1821 H1822 G1837 ASP LEU LEU VAL ASN PRO ASP GLN PRO ARG LEU THR ILE PRO ILE SER GLN ILE ALA PRO



• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

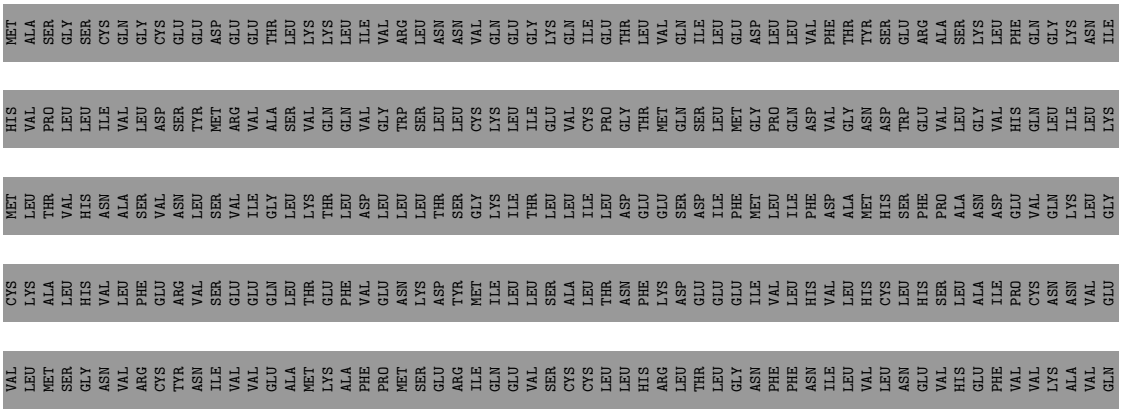
Chain 46-B:





• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

Chain 47-A:



GLN TYR PRO GLU ASN ALA ALA LEU GLN ILE SER ALA LEU SER CYS LEU ALA LEU LEU THR GLU THR ILE PHE LEU ASN GLN ASP LEU GLU GLU LYS ASN GLU ASN GLN GLU ASN ASP ASP GLU GLY GLU GLU ASP LYS LEU PHE TRP LEU GLU ALA CYS TYR LYS ALA LEU THR TRP HIS

ARG LYS ASN LYS HIS VAL GLN GLU ALA ALA CYS TRP ALA LEU ASN ASN LEU LEU MET TYR GLN ASN SER LEU HIS GLU LYS ILE GLY ASP GLU ASP GLY HIS PHE PRO ALA HIS ARG GLU VAL MET LEU SER MET LEU MET HIS SER SER SER LYS GLU VAL PHE GLN ALA SER ALA ASN

ALA LEU SER THR LEU LEU GLU GLN ASN VAL ASN PHE ARG LYS ILE LEU LEU SER LYS GLY ILE HIS LEU ASN VAL LEU GLU LEU MET GLN LYS HIS ILE HIS SER PRO GLU VAL ALA GLU SER GLY CYS LYS MET LEU ASN HIS LEU PHE GLU GLY SER ASN THR SER LEU ASP ILE MET

ALA ALA VAL VAL PRO LYS ILE LEU THR VAL MET LYS ARG HIS GLU THR SER LEU PRO VAL GLN LEU GLU ALA LEU ARG ALA ILE LEU HIS PHE ILE VAL PRO GLY MET PRO GLU GLU SER ARG GLU ASP THR GLU PHE HIS HIS LYS LEU ASN MET VAL LYS LYS GLN CYS PHE LYS ASN

ASP ILE HIS LYS LEU VAL LEU ALA ALA LEU ASN ARG PHE ILE GLY ASN PRO GLY ILE GLN LYS CYS GLY LEU LYS VAL ILE SER SER ILE VAL HIS PHE PRO ASP ALA LEU GLU MET LEU SER LEU GLU GLY ALA MET ASP SER VAL LEU HIS THR LEU GLN MET TYR PRO ASP ASP GLN

GLU ILE GLN CYS LEU GLY LEU SER LEU ILE GLY TYR LEU ILE THR LYS LYS ASN VAL PHE ILE GLY THR GLY HIS LEU LEU ALA LYS ILE LEU VAL SER SER LEU TYR ARG PHE LYS ASP VAL ALA GLU ILE GLN THR LYS GLY PHE GLN THR ILE LEU ALA ILE LEU LYS LEU SER ALA

SER PHE SER LYS LEU LEU VAL HIS HIS SER PHE ASP LEU VAL ILE PHE HIS GLN MET SER SER ASN ILE MET GLU GLN LYS ASP GLN GLN PHE LEU ASN LEU CYS CYS LYS CYS PHE ALA LYS VAL ALA MET ASP ASP TYR LEU LYS ASN VAL MET LEU GLU ARG ALA CYS ASP GLN ASN

ASN SER ILE MET VAL GLU CYS LEU LEU LEU LEU GLY ALA ASP ALA ASN GLN ALA LYS GLU GLY SER SER LEU ILE CYS GLN VAL CYS GLU LYS GLU SER SER PRO LYS LEU VAL GLU LEU LEU LEU ASN SER GLY SER ARG GLU GLN ASP VAL ARG LYS ALA LEU THR ILE SER ILE GLY

LYS GLY ASP SER GLN ILE ILE SER LEU LEU LEU ARG ARG LEU ALA LEU ASP VAL ALA ASN ASN SER ILE CYS LEU GLY GLY PHE CYS ILE GLY LYS VAL GLU PRO SER TRP LEU GLY PRO LEU PHE PRO ASP LYS THR SER ASN LEU ARG LYS GLN THR ASN ILE ALA SER THR LEU ALA

ARG MET VAL ILE ARG TYR GLN MET LYS SER ALA VAL GLU GLU GLY THR ALA SER GLY SER ASP GLY ASN PHE SER GLU ASP VAL LEU SER LYS PHE ASP GLU TRP THR PHE ILE PRO ASP SER SER MET ASP SER VAL PHE ALA GLN SER ASP ASP LEU ASP SER GLU GLY SER GLU GLY

SER PHE LEU VAL LYS LYS LYS SER ASN SER ILE SER VAL GLY GLU PHE TYR ARG ASP ALA VAL LEU GLN ARG CYS SER PRO ASN LEU GLN ARG HIS SER ASN SER LEU GLY PRO ILE PHE ASP HIS GLU ASP LEU LEU LYS ARG LYS ARG LYS ILE LEU SER SER ASP ASP SER LEU ARG

SER SER LYS LEU GLN SER HIS MET ARG HIS SER ASP SER ILE SER SER LEU ALA SER GLU ARG GLU TYR ILE THR SER LEU ASP LEU SER ALA ASN GLU LEU ARG ASP ILE ASP ALA LEU SER GLN LYS CYS CYS ILE SER VAL HIS LEU GLU HIS LEU GLU LYS LEU GLU LEU HIS GLN

ASN ALA LEU THR SER PHE PRO GLN GLN LEU CYS GLU THR LEU LYS SER LEU THR HIS LEU ASP LEU HIS SER ASN LYS PHE THR SER PHE PRO SER TYR LEU LEU LYS MET SER CYS ILE ALA ASN LEU ASP VAL SER ARG ASN ASP ILE GLY PRO SER VAL VAL LEU ASP PRO THR VAL

LYS CYS PRO THR LEU LYS GLN PHE ASN LEU SER TYR ASN GLN LEU SER PHE VAL PRO GLU ASN LEU THR ASP VAL VAL GLU LYS LEU GLU GLN LEU ILE LEU GLU GLY ASN LYS ILE SER GLY ILE CYS SER PRO LEU ARG LEU LYS GLU LEU LYS ILE LEU ASN LEU SER LYS ASN HIS

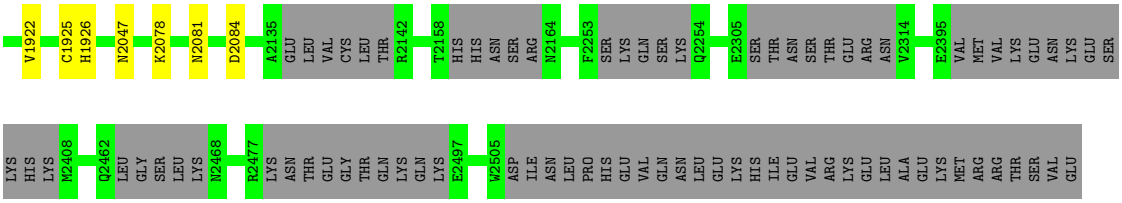
ILE SER SER LEU SER GLU ASN PHE LEU GLU ALA CYS PRO LYS VAL GLU SER PHE SER ALA ARG MET ASN PHE LEU ALA ALA MET PRO PHE LEU PRO PRO SER MET THR ILE LEU LYS LEU SER GLN ASN LYS PHE SER CYS ILE PRO GLU ALA ILE LEU ASN LEU PRO HIS LEU ARG SER

LEU ASP MET SER SER ASN ASP ILE GLN TYR LEU PRO GLY PRO ALA HIS TRP LYS SER LEU ASN LEU ARG GLU LEU LEU PHE SER HIS ASN GLN ILE SER ILE LEU ASP LEU SER GLU LYS ALA TYR LEU TRP SER ARG VAL GLU LYS LEU HIS LEU SER HIS ASN LYS LEU LYS GLU ILE

PRO PRO GLU ILE GLY CYS LEU GLU ASN LEU THR SER LEU ASP VAL SER TYR ASN LEU GLU LEU ARG SER PHE PRO ASN GLU MET GLY LYS LEU SER LYS ILE TRP ASP LEU PRO LEU ASP GLU LEU HIS LEU ASN PHE ASP PHE LYS HIS ILE GLY CYS LYS ALA LYS ASP ILE ILE ARG

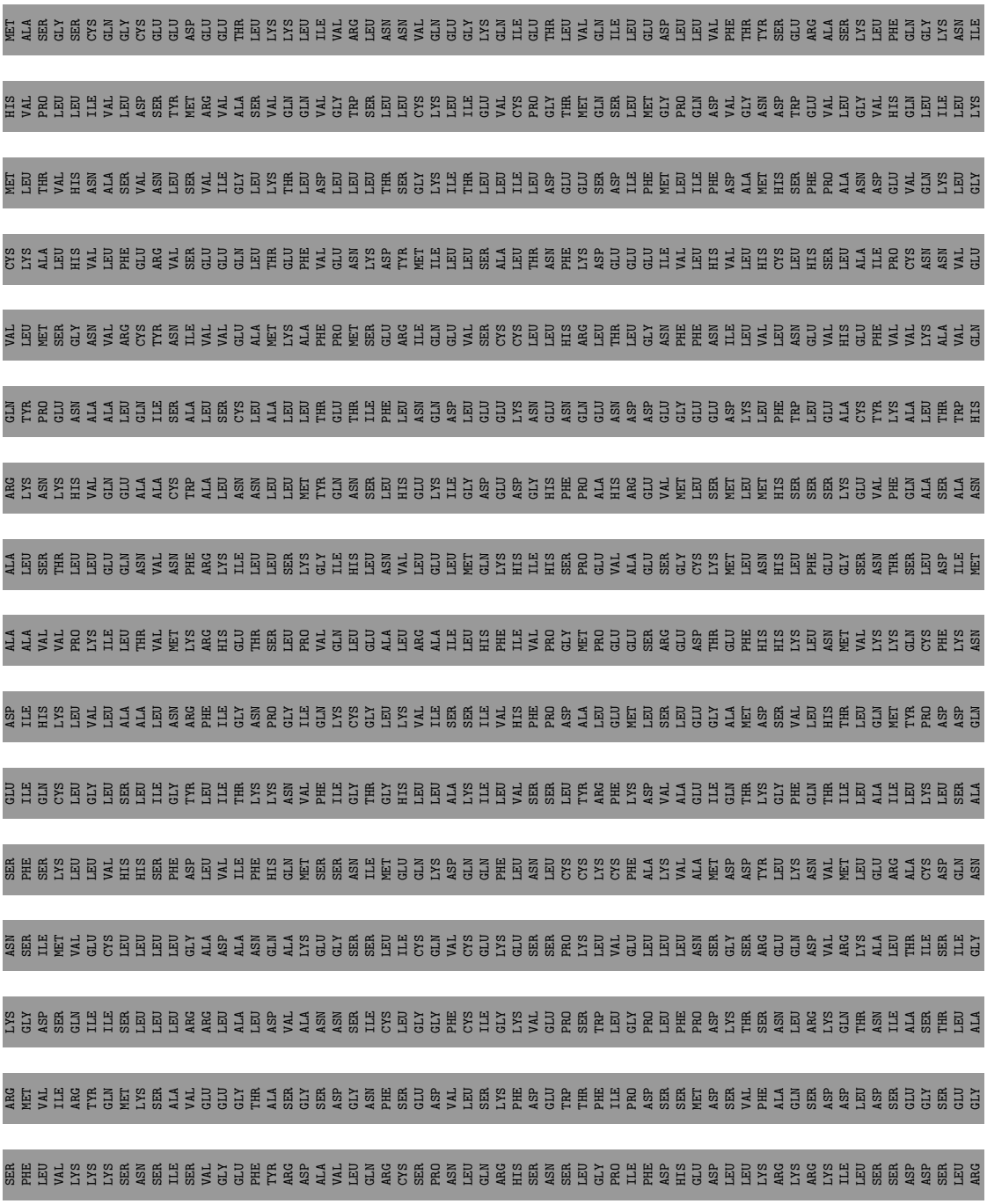
PHE LEU GLN GLN ARG LEU LYS LYS ALA VAL PRO Y1332 R1514 ASP GLN LEU VAL VAL GLY GLN LEU ILE P1524 K1551 L1554 Q1563 Q1591 L1592 G1663 E1664 V1669 PRO SER SER LEU SER ASP HIS ARG PRO VAL ILE GLU LEU PRO HIS CYS GLU ASN SER GLU I1690

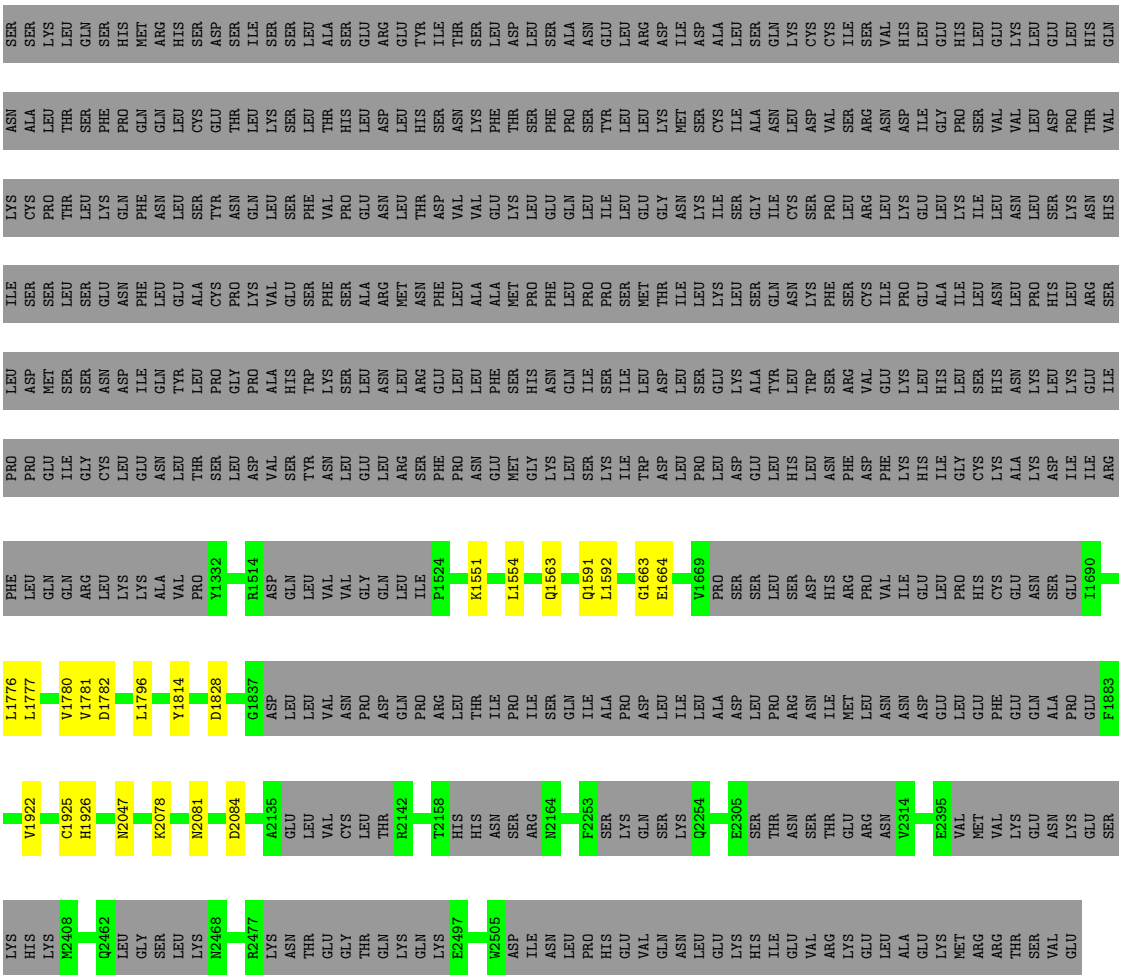
L1776 L1777 V1780 V1781 D1782 Y1814 E1821 D1828 G1837 ASP LEU LEU VAL ASN PRO ASP GLN PRO ARG LEU THR ILE PRO ILE SER GLN ILE ALA PRO ASP LEU ILE LEU ALA ASP LEU PRO ARG ASN ILE MET LEU ASN ASN ASP GLU LEU GLU PHE GLU GLN ALA PRO GLU F1883



• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

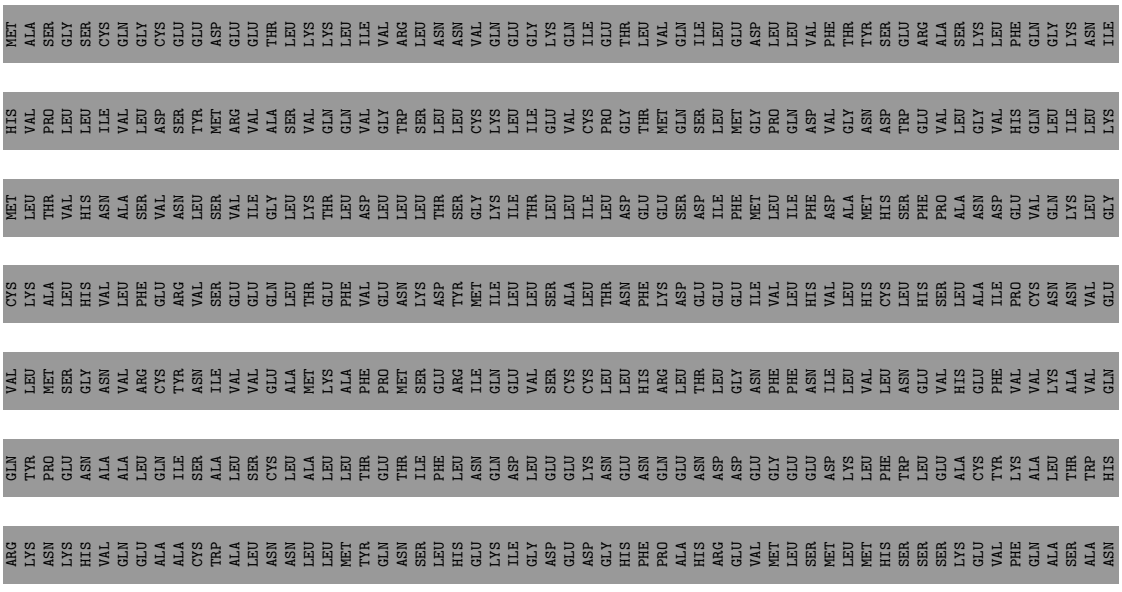
Chain 47-B:





• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

Chain 48-A:



ALA LEU SER THR LEU LEU GLU GLN ASN VAL ASN PHE ARG LYS ILE LEU LEU SER LYS GLY ILE HIS LEU ASN VAL LEU GLU LEU MET GLN LYS HIS ILE HIS SER PRO GLU VAL ALA GLU SER GLY CYS LYS MET LEU ASN HIS LEU PHE GLU GLY SER ASN THR SER LEU ASP ILE MET

ALA ALA VAL VAL PRO LYS ILE LEU THR THR VAL MET LYS ARG HIS GLU THR SER LEU PRO VAL GLN LEU GLU ALA LEU ARG ALA ILE LEU HIS PHE ILE VAL PRO GLY MET PRO GLU GLU SER ARG GLU ASP THR GLU PHE HIS HIS LYS LEU ASN MET VAL LYS LYS GLN CYS PHE LYS ASN

ASP ILE HIS LYS LEU VAL LEU ALA ALA LEU ASN ARG PHE ILE GLY ASN PRO GLY ILE GLN LYS CYS GLY LEU LYS VAL ILE SER SER ILE VAL HIS PHE PRO ASP ALA LEU GLU MET LEU SER LEU GLU GLY ALA MET ASP SER VAL LEU HIS THR LEU GLN MET TYR PRO ASP ASP GLN

GLU ILE GLN CYS LEU GLY LEU SER LEU ILE GLY TYR LEU ILE THR LYS LYS ASN VAL PHE ILE GLY THR GLY HIS LEU LEU ALA LYS ILE LEU VAL SER SER LEU TYR ARG PHE LYS ASP VAL ALA GLU ILE GLN THR LYS GLY PHE GLN THR ILE LEU ALA ILE LEU LYS LEU SER ALA

SER PHE SER LYS LEU LEU VAL HIS HIS SER PHE ASP LEU VAL ILE PHE HIS GLN MET SER SER ASN ILE MET GLU GLN LYS ASP GLN GLN PHE LEU ASN LEU CYS CYS LYS CYS PHE ALA LYS VAL ALA MET ASP ASP TYR LEU LYS ASN VAL MET LEU GLU ARG ALA CYS ASP GLN ASN

ASN SER ILE MET VAL GLU CYS LEU LEU LEU LEU GLY ALA ASP ALA ASN GLN ALA LYS GLU GLY SER SER LEU ILE CYS GLN VAL CYS GLU LYS GLU SER SER PRO LYS LEU VAL GLU LEU LEU LEU ASN SER GLY SER ARG GLU GLN ASP VAL ARG LYS ALA LEU THR ILE SER ILE GLY

LYS GLY ASP SER GLN ILE ILE SER LEU LEU LEU ARG ARG LEU ALA LEU ASP VAL ALA ASN ASN SER ILE CYS LEU GLY GLY PHE CYS ILE GLY LYS VAL GLU PRO SER TRP LEU GLY PRO LEU PHE PRO ASP LYS THR SER ASN LEU ARG LYS GLN THR ASN ILE ALA SER THR LEU ALA

ARG MET VAL ILE ARG TYR GLN MET LYS SER ALA VAL GLU GLU GLY THR ALA SER GLY SER ASP GLY ASN PHE SER GLU ASP VAL LEU SER LYS PHE ASP GLU TRP THR PHE ILE PRO ASP SER SER MET ASP SER VAL PHE ALA GLN SER ASP ASP LEU ASP SER GLU GLY SER GLU GLY

SER PHE LEU VAL LYS LYS LYS SER ASN SER ILE SER VAL GLY GLU PHE TYR ARG ASP ALA VAL LEU GLN ARG CYS SER PRO ASN LEU GLN ARG HIS SER ASN SER LEU GLY PRO ILE PHE ASP HIS GLU ASP LEU LEU LYS ARG LYS ARG LYS ILE LEU SER SER ASP ASP SER LEU ARG

SER SER LYS LEU GLN SER HIS MET ARG HIS SER ASP SER ILE SER SER LEU ALA SER GLU ARG GLU TYR ILE THR SER LEU ASP LEU SER ALA ASN GLU LEU ARG ASP ILE ASP ALA LEU SER GLN LYS CYS CYS ILE SER VAL HIS LEU GLU HIS LEU GLU LYS LEU GLU LEU HIS GLN

ASN ALA LEU THR SER PHE PRO GLN GLN LEU CYS GLU THR LEU LYS SER LEU THR HIS LEU ASP LEU HIS SER ASN LYS PHE THR SER PHE PRO SER TYR LEU LEU LYS MET SER CYS ILE ALA ASN LEU ASP VAL SER ARG ASN ASP ILE GLY PRO SER VAL VAL LEU ASP PRO THR VAL

LYS CYS PRO THR LEU LYS GLN PHE ASN LEU SER TYR ASN GLN LEU SER PHE VAL PRO GLU ASN LEU THR ASP VAL VAL GLU LYS LEU GLU GLN LEU ILE LEU GLU GLY ASN LYS ILE SER GLY ILE CYS SER PRO LEU ARG LEU LYS GLU LEU LYS ILE LEU ASN LEU SER LYS ASN HIS

ILE SER SER LEU SER GLU ASN PHE LEU GLU ALA CYS PRO LYS VAL GLU SER PHE SER ALA ARG MET ASN PHE LEU ALA ALA MET PRO PHE LEU PRO PRO SER MET THR ILE LEU LYS LEU SER GLN ASN LYS PHE SER CYS ILE PRO GLU ALA ILE LEU ASN LEU PRO HIS LEU ARG SER

LEU ASP MET SER SER ASN ASP ILE GLN TYR LEU PRO GLY PRO ALA HIS TRP LYS SER LEU ASN LEU ARG GLU LEU LEU PHE SER HIS ASN GLN ILE SER ILE LEU ASP LEU SER GLU LYS ALA TYR LEU TRP SER ARG VAL GLU LYS LEU HIS LEU SER HIS ASN LYS LEU LYS GLU ILE

PRO PRO GLU ILE GLY CYS LEU GLU ASN LEU THR SER LEU ASP VAL SER TYR ASN LEU GLU LEU ARG SER PHE PRO ASN GLU MET GLY LYS LEU SER LYS ILE TRP ASP LEU PRO LEU ASP GLU LEU HIS LEU ASN PHE ASP PHE LYS HIS ILE GLY CYS LYS ALA LYS ASP ILE ILE ARG

PHE LEU GLN GLN ARG LEU LYS LYS ALA VAL PRO Y1332 K1476 L1509 R1514 ASP GLN LEU VAL VAL GLY GLN LEU ILE P1524 N1567 E1568 L1569 P1570 H1571 H1574 E1599 P1600 V1669 PRO SER SER LEU SER ASP HIS ARG PRO VAL ILE GLU LEU PRO HIS CYS GLU ASN SER

GLU I1690 L1694 Y1695 E1696 M1697 P1698 Y1699 F1700 P1701 S1706 R1707 L1708 R1711 R1735 Q1736 E1753 V1754 L1755 I1775 L1776 L1777 G1778 A1812 E1821 G1837 ASP LEU LEU VAL ASN PRO ASP GLN PRO ARG LEU THR ILE PRO ILE SER GLN ILE ALA PRO ASP LEU LEU ALA

ASP LEU PRO ARG ASN ILE MET LEU ASN ASN ASP GLU LEU GLU PHE GLU GLN ALA PRO GLU F1883 A2044 K2078 F2079 P2080 N2081 A2135 GLU LEU VAL CYS LEU THR R2142 T2158 HIS HIS ASN SER ARG N2164 F2253 SER LYS GLN SER LYS Q2254 E2305 SER THR ASN SER THR

GLU ARG ASN V2314 E2395 VAL MET VAL LYS GLU ASN LYS GLU SER LYS HIS LYS M2408 Q2462 LEU GLY SER LEU LYS N2468 R2477 LYS ASN THR GLU GLY THR GLN LYS GLN LYS E2497 W2505 ASP ILE ASN LEU PRO HIS GLU VAL GLN ASN LEU GLU LYS HIS ILE GLU VAL ARG

LYS GLU LEU ALA GLU LYS MET ARG ARG THR SER VAL GLU

• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

Chain 48-B: 40% • 59%

MET ALA SER GLY SER CYS GLN GLY CYS GLU GLU ASP GLU GLU THR LEU LYS LYS LEU ILE VAL ARG LEU ASN ASN VAL GLN GLU GLY LYS GLN ILE GLU THR LEU VAL GLN ILE LEU GLU ASP LEU LEU VAL PHE THR TYR SER GLU ARG ALA SER LYS LEU PHE GLN GLY LYS ASN ILE

HIS VAL PRO LEU LEU ILE VAL LEU ASP SER TYR MET ARG VAL ALA SER VAL GLN GLN VAL GLY TRP SER LEU LEU CYS LYS LEU ILE GLU VAL CYS PRO GLY THR MET GLN SER LEU MET GLY PRO GLN ASP VAL GLY ASN ASP TRP GLU VAL LEU GLY VAL HIS GLN LEU ILE LEU LYS

MET LEU THR VAL HIS ASN ALA SER VAL ASN LEU SER VAL ILE GLY LEU LYS THR LEU ASP LEU LEU LEU THR SER GLY LYS ILE THR LEU LEU ILE LEU ASP GLU GLU SER ASP ILE PHE MET LEU ILE PHE ASP ALA MET HIS SER PHE PRO ALA ASN ASP GLU VAL GLN LYS LEU GLY

CYS LYS ALA LEU HIS VAL LEU PHE GLU ARG VAL SER GLU GLU GLN LEU THR GLU PHE VAL GLU ASN LYS ASP TYR MET ILE LEU LEU SER ALA LEU THR ASN PHE LYS ASP GLU GLU ILE VAL LEU HIS VAL LEU HIS CYS LEU HIS SER LEU ALA ILE PRO CYS ASN ASN VAL GLU

VAL LEU MET SER GLY ASN VAL ARG CYS TYR ASN ILE VAL VAL GLU ALA MET LYS ALA PHE PRO MET SER GLU ARG ILE GLN GLU VAL SER CYS CYS LEU LEU HIS ARG LEU THR LEU GLY ASN PHE PHE ASN ILE LEU VAL LEU ASN GLU VAL HIS GLU PHE VAL VAL LYS ALA VAL GLN

GLN TYR PRO GLU ASN ALA ALA LEU GLN ILE SER ALA LEU SER CYS LEU ALA LEU LEU THR GLU THR ILE PHE LEU ASN GLN ASP LEU GLU GLU LYS ASN GLU ASN GLN GLU ASN ASP ASP GLU GLY GLU GLU ASP LYS LEU PHE TRP LEU GLU ALA CYS TYR LYS ALA LEU THR TRP HIS

ARG LYS ASN LYS HIS VAL GLN GLU ALA ALA CYS TRP ALA LEU ASN ASN LEU LEU MET TYR GLN ASN SER LEU HIS GLU LYS ILE GLY ASP GLU ASP GLY HIS PHE PRO ALA HIS ARG GLU VAL MET LEU SER MET LEU MET HIS SER SER SER LYS GLU VAL PHE GLN ALA SER ALA ASN

ALA LEU SER THR LEU LEU GLU GLN ASN VAL ASN PHE ARG LYS ILE LEU LEU SER LYS GLY ILE HIS LEU ASN VAL LEU GLU LEU MET GLN LYS HIS ILE HIS SER PRO GLU VAL ALA GLU SER GLY CYS LYS MET LEU ASN HIS LEU PHE GLU GLY SER ASN THR SER LEU ASP ILE MET

ALA ALA VAL VAL PRO LYS ILE LEU THR VAL MET LYS ARG HIS GLU THR SER LEU PRO VAL GLN LEU GLU ALA LEU ARG ALA ILE LEU HIS PHE ILE VAL PRO GLY MET PRO GLU GLU SER ARG GLU ASP THR GLU PHE HIS HIS LYS LEU ASN MET VAL LYS LYS GLN CYS PHE LYS ASN

ASP ILE HIS LYS LEU VAL LEU ALA ALA LEU ASN ARG PHE ILE GLY ASN PRO GLY ILE GLN LYS CYS GLY LEU LYS VAL ILE SER SER ILE VAL HIS PHE PRO ASP ALA LEU GLU MET LEU SER LEU GLU GLY ALA MET ASP SER VAL LEU HIS THR LEU GLN MET TYR PRO ASP ASP GLN

GLU ILE GLN CYS LEU GLY LEU SER LEU ILE GLY TYR LEU ILE THR LYS LYS ASN VAL PHE ILE GLY THR GLY HIS LEU LEU ALA LYS ILE LEU VAL SER SER LEU TYR ARG PHE LYS ASP VAL ALA GLU ILE GLN THR LYS GLY PHE GLN THR ILE LEU ALA ILE LEU LYS LEU SER ALA

SER PHE SER LYS LEU LEU VAL HIS HIS SER PHE ASP LEU VAL ILE PHE HIS GLN MET SER SER ASN ILE MET GLU GLN LYS ASP GLN GLN PHE LEU ASN LEU CYS CYS LYS CYS PHE ALA LYS VAL ALA MET ASP ASP TYR LEU LYS ASN VAL MET LEU GLU ARG ALA CYS ASP GLN ASN

ASN SER ILE MET VAL GLU CYS LEU LEU LEU LEU GLY ALA ASP ALA ASN GLN ALA LYS GLU GLY SER SER LEU ILE CYS GLN VAL CYS GLU LYS GLU SER SER PRO LYS LEU VAL GLU LEU LEU LEU ASN SER GLY SER ARG GLU GLN ASP VAL ARG LYS ALA LEU THR ILE SER ILE GLY

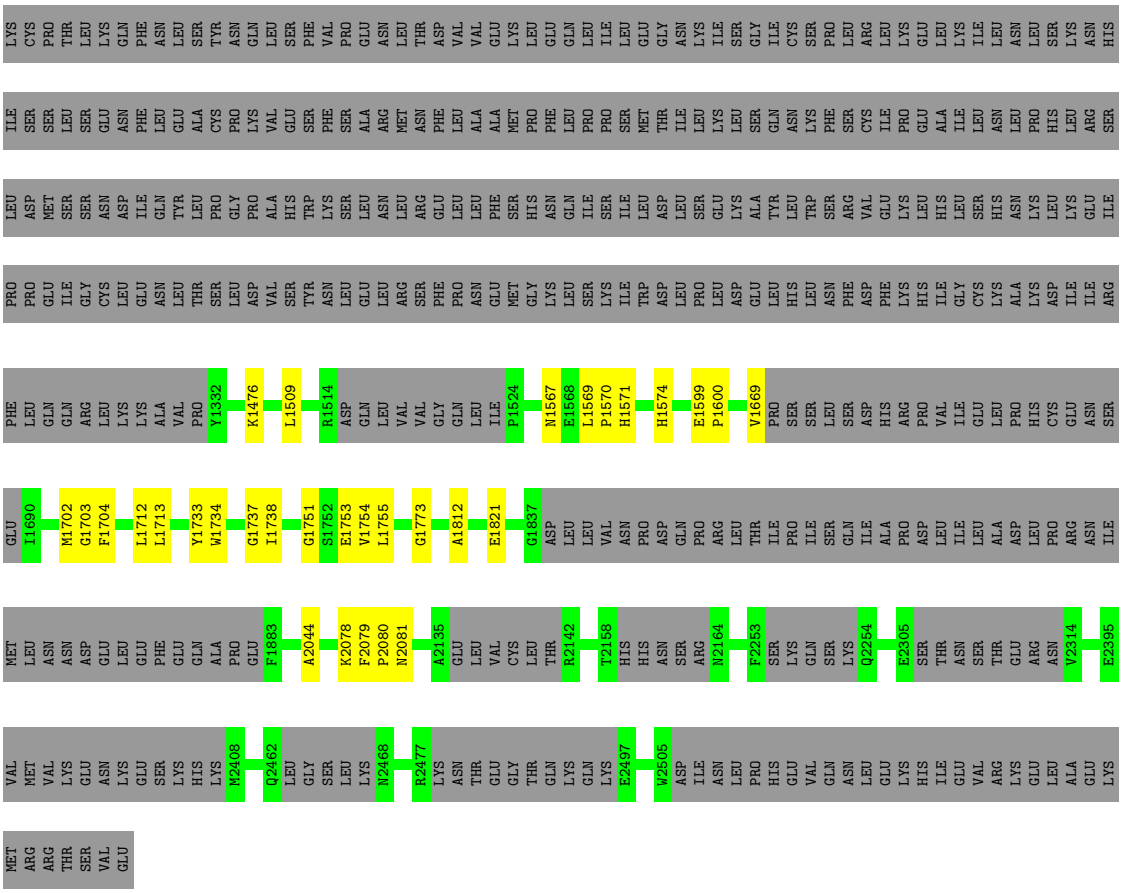
LYS GLY ASP SER GLN ILE ILE SER LEU LEU LEU ARG ARG LEU ALA LEU ASP VAL ALA ASN ASN SER ILE CYS LEU GLY GLY PHE CYS ILE GLY LYS VAL GLU PRO SER TRP LEU GLY PRO LEU PHE PRO ASP LYS THR SER ASN LEU ARG LYS GLN THR ASN ILE ALA SER THR LEU ALA

ARG MET VAL ILE ARG TYR GLN MET LYS SER ALA VAL GLU GLU GLY THR ALA SER GLY SER ASP GLY ASN PHE SER GLU ASP VAL LEU SER LYS PHE ASP GLU TRP THR PHE ILE PRO ASP SER SER MET ASP SER VAL PHE ALA GLN SER ASP ASP LEU ASP SER GLU GLY SER GLU GLY

SER PHE LEU VAL LYS LYS LYS SER ASN SER ILE SER VAL GLY GLU PHE TYR ARG ASP ALA VAL LEU GLN ARG CYS SER PRO ASN LEU GLN ARG HIS SER ASN SER LEU GLY PRO ILE PHE ASP HIS GLU ASP LEU LEU LYS ARG LYS ARG LYS ILE LEU SER SER ASP ASP SER LEU ARG

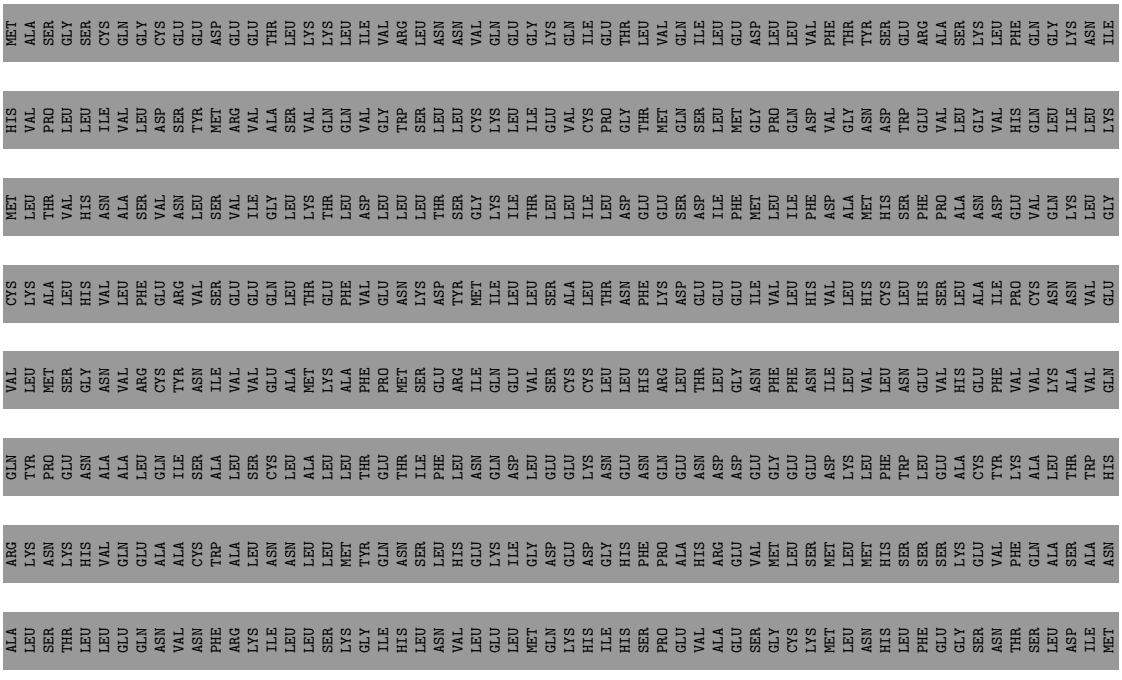
SER SER LYS LEU GLN SER HIS MET ARG HIS SER ASP SER ILE SER SER LEU ALA SER GLU ARG GLU TYR ILE THR SER LEU ASP LEU SER ALA ASN GLU LEU ARG ASP ILE ASP ALA LEU SER GLN LYS CYS CYS ILE SER VAL HIS LEU GLU HIS LEU GLU LYS LEU GLU LEU HIS GLN

ASN ALA LEU THR SER PHE PRO GLN GLN LEU CYS GLU THR LEU LYS SER LEU THR HIS LEU ASP LEU HIS SER ASN LYS PHE THR SER PHE PRO SER TYR LEU LEU LYS MET SER CYS ILE ALA ASN LEU ASP VAL SER ARG ASN ASP ILE GLY PRO SER VAL VAL LEU ASP PRO THR VAL



• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

Chain 49-A: 



ALA ALA VAL VAL PRO LYS ILE LEU THR VAL MET LYS ARG HIS GLU THR SER LEU PRO VAL GLN LEU GLU ALA LEU ARG ALA ILE LEU HIS PHE ILE VAL PRO GLY MET PRO GLU GLU SER ARG GLU ASP THR GLU PHE HIS HIS LYS LEU ASN MET VAL LYS LYS GLN CYS PHE LYS ASN

ASP ILE HIS LYS LEU VAL LEU ALA ALA LEU ASN ARG PHE ILE GLY ASN PRO GLY ILE GLN LYS CYS GLY LEU LYS VAL ILE SER SER ILE VAL HIS PHE PRO ASP ALA LEU GLU MET LEU SER LEU GLU GLY ALA MET ASP SER VAL LEU HIS THR LEU GLN MET TYR PRO ASP ASP GLN

GLU ILE GLN CYS LEU GLY LEU SER LEU ILE GLY TYR LEU ILE THR LYS LYS ASN VAL PHE ILE GLY THR GLY HIS LEU LEU ALA LYS ILE LEU VAL SER SER LEU TYR ARG PHE LYS ASP VAL ALA GLU ILE GLN THR LYS GLY PHE GLN THR ILE LEU ALA ILE LEU LYS LEU SER ALA

SER PHE SER LYS LEU LEU VAL HIS HIS SER PHE ASP LEU VAL ILE PHE HIS GLN MET SER SER ASN ILE MET GLU GLN LYS ASP GLN GLN PHE LEU ASN LEU CYS CYS LYS CYS PHE ALA LYS VAL ALA MET ASP ASP TYR LEU LYS ASN VAL MET LEU GLU ARG ALA CYS ASP GLN ASN

ASN SER ILE MET VAL GLU CYS LEU LEU LEU LEU GLY ALA ASP ALA ASN GLN ALA LYS GLU GLY SER SER LEU ILE CYS GLN VAL CYS GLU LYS GLU SER SER PRO LYS LEU VAL GLU LEU LEU LEU ASN SER GLY SER ARG GLU GLN ASP VAL ARG LYS ALA LEU THR ILE SER ILE GLY

LYS GLY ASP SER GLN ILE ILE SER LEU LEU LEU ARG ARG LEU ALA LEU ASP VAL ALA ASN ASN SER ILE CYS LEU GLY GLY PHE CYS ILE GLY LYS VAL GLU PRO SER TRP LEU GLY PRO LEU PHE PRO ASP LYS THR SER ASN LEU ARG LYS GLN THR ASN ILE ALA SER THR LEU ALA

ARG MET VAL ILE ARG TYR GLN MET LYS SER ALA VAL GLU GLU GLY THR ALA SER GLY SER ASP GLY ASN PHE SER GLU ASP VAL LEU SER LYS PHE ASP GLU TRP THR PHE ILE PRO ASP SER SER MET ASP SER VAL PHE ALA GLN SER ASP ASP LEU ASP SER GLU GLY SER GLU GLY

SER PHE LEU VAL LYS LYS LYS SER ASN SER ILE SER VAL GLY GLU PHE TYR ARG ASP ALA VAL LEU GLN ARG CYS SER PRO ASN LEU GLN ARG HIS SER ASN SER LEU GLY PRO ILE PHE ASP HIS GLU ASP LEU LEU LYS ARG LYS ARG LYS ILE LEU SER SER ASP ASP SER LEU ARG

SER SER LYS LEU GLN SER HIS MET ARG HIS SER ASP SER ILE SER SER LEU ALA SER GLU ARG GLU TYR ILE THR SER LEU ASP LEU SER ALA ASN GLU LEU ARG ASP ILE ASP ALA LEU SER GLN LYS CYS CYS ILE SER VAL HIS LEU GLU HIS LEU GLU LYS LEU GLU LEU HIS GLN

ASN ALA LEU THR SER PHE PRO GLN GLN LEU CYS GLU THR LEU LYS SER LEU THR HIS LEU ASP LEU HIS SER ASN LYS PHE THR SER PHE PRO SER TYR LEU LEU LYS MET SER CYS ILE ALA ASN LEU ASP VAL SER ARG ASN ASP ILE GLY PRO SER VAL VAL LEU ASP PRO THR VAL

LYS CYS PRO THR LEU LYS GLN PHE ASN LEU SER TYR ASN GLN LEU SER PHE VAL PRO GLU ASN LEU THR ASP VAL VAL GLU LYS LEU GLU GLN LEU ILE LEU GLU GLY ASN LYS ILE SER GLY ILE CYS SER PRO LEU ARG LEU LYS GLU LEU LYS ILE LEU ASN LEU SER LYS ASN HIS

ILE SER SER LEU SER GLU ASN PHE LEU GLU ALA CYS PRO LYS VAL GLU SER PHE SER ALA ARG MET ASN PHE LEU ALA ALA MET PRO PHE LEU PRO PRO SER MET THR ILE LEU LYS LEU SER GLN ASN LYS PHE SER CYS ILE PRO GLU ALA ILE LEU ASN LEU PRO HIS LEU ARG SER

LEU ASP MET SER SER ASN ASP ILE GLN TYR LEU PRO GLY PRO ALA HIS TRP LYS SER LEU ASN LEU ARG GLU LEU LEU PHE SER HIS ASN GLN ILE SER ILE LEU ASP LEU SER GLU LYS ALA TYR LEU TRP SER ARG VAL GLU LYS LEU HIS LEU SER HIS ASN LYS LEU LYS GLU ILE

PRO PRO GLU ILE GLY CYS LEU GLU ASN LEU THR SER LEU ASP VAL SER TYR ASN LEU GLU LEU ARG SER PHE PRO ASN GLU MET GLY LYS LEU SER LYS ILE TRP ASP LEU PRO LEU ASP GLU LEU HIS LEU ASN PHE ASP PHE LYS HIS ILE GLY CYS LYS ALA LYS ASP ILE ILE ARG

PHE LEU GLN GLN ARG LEU LYS LYS ALA VAL PRO Y1332 Q1353 A1367 T1368 V1369 G1370 D1455 N1489 A1490 T1491 E1492 E1493 S1494 R1514 ASP GLN LEU VAL VAL GLY GLN LEU ILE P1524 D1565 E1566 N1567 E1568 L1569 P1570 L1576 N1577 E1578 S1579 G1580 V1581 L1582 L1583 L1590 Q1591

P1600 I1658 V1669 PRO SER SER LEU SER ASP HIS ARG PRO VAL ILE GLU LEU PRO HIS CYS GLU ASN SER GLU I1690 K1764 L1776 G1794 K1810 K1832 G1837 ASP LEU LEU VAL ASN PRO ASP GLN PRO ARG LEU THR ILE PRO ILE SER GLN ILE ALA PRO ASP LEU

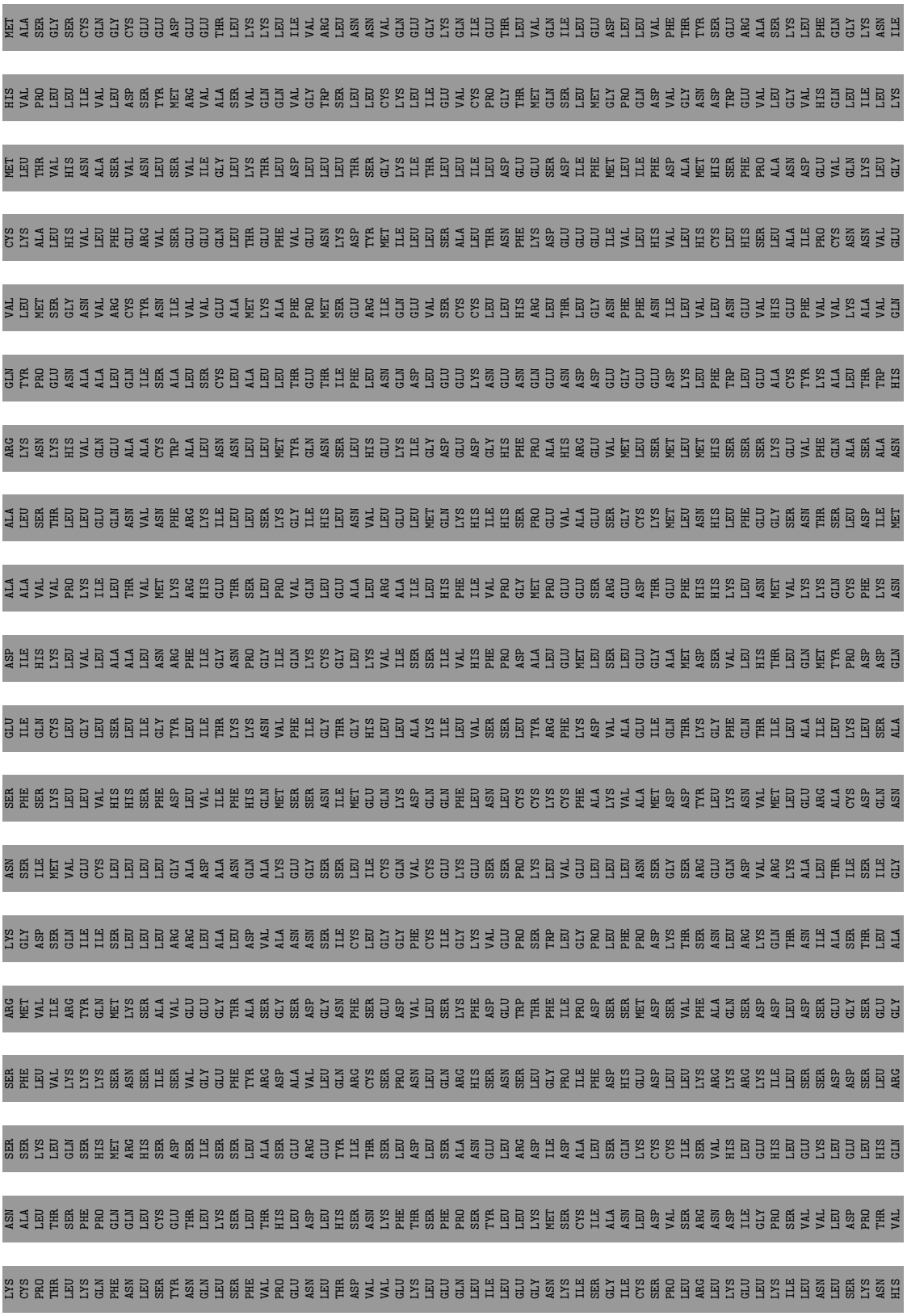
ILE LEU ALA ASP LEU PRO ARG ASN ILE MET LEU ASN ASN ASP GLU LEU GLU PHE GLU GLN ALA PRO GLU F1883 V1922 A2044 L2077 K2078 F2079 P2080 E2117 N2118 A2135 GLU LEU VAL CYS LEU THR R2142 T2158 HIS HIS ASN SER ARG N2164 F2253 SER LYS GLN SER LYS

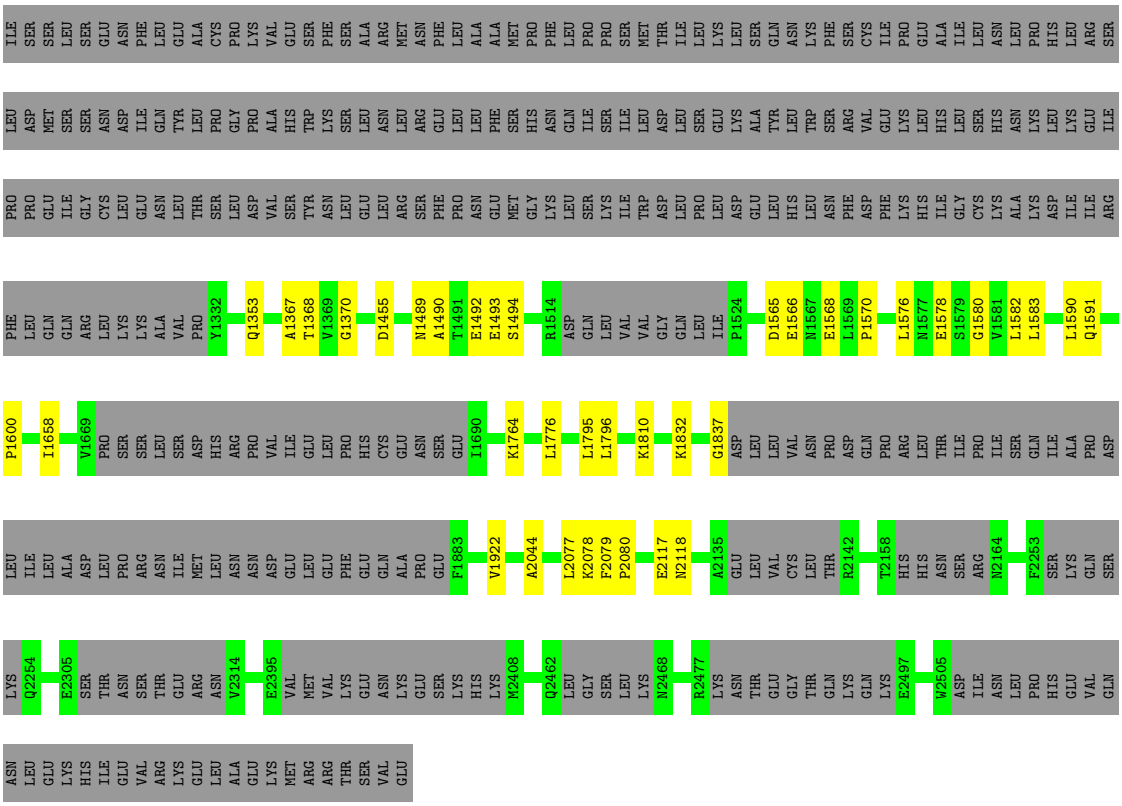
Q2254 E2305 SER THR ASN SER THR GLU ARG ASN V2314 E2395 VAL MET VAL LYS GLU ASN LYS GLU SER LYS HIS LYS M2408 Q2462 LEU GLY SER LEU LYS N2468 R2477 LYS ASN THR GLU GLY THR GLN LYS GLN LYS E2497 W2505 ASP ILE ASN LEU PRO HIS GLU VAL GLN ASN

LEU GLU LYS HIS ILE GLU VAL ARG LYS GLU LEU ALA GLU LYS MET ARG ARG THR SER VAL GLU

• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

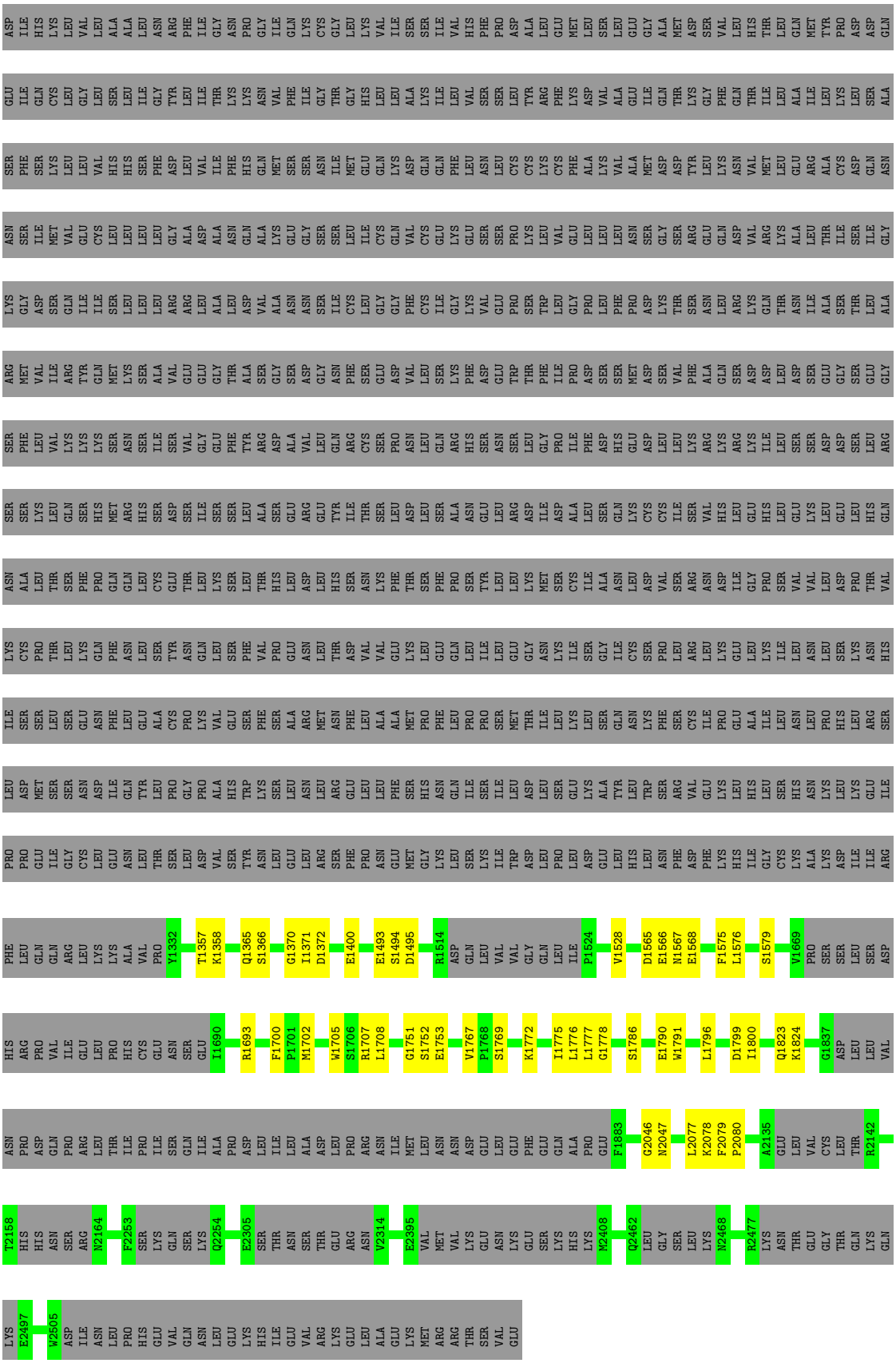
Chain 49-B: 40% • 59%





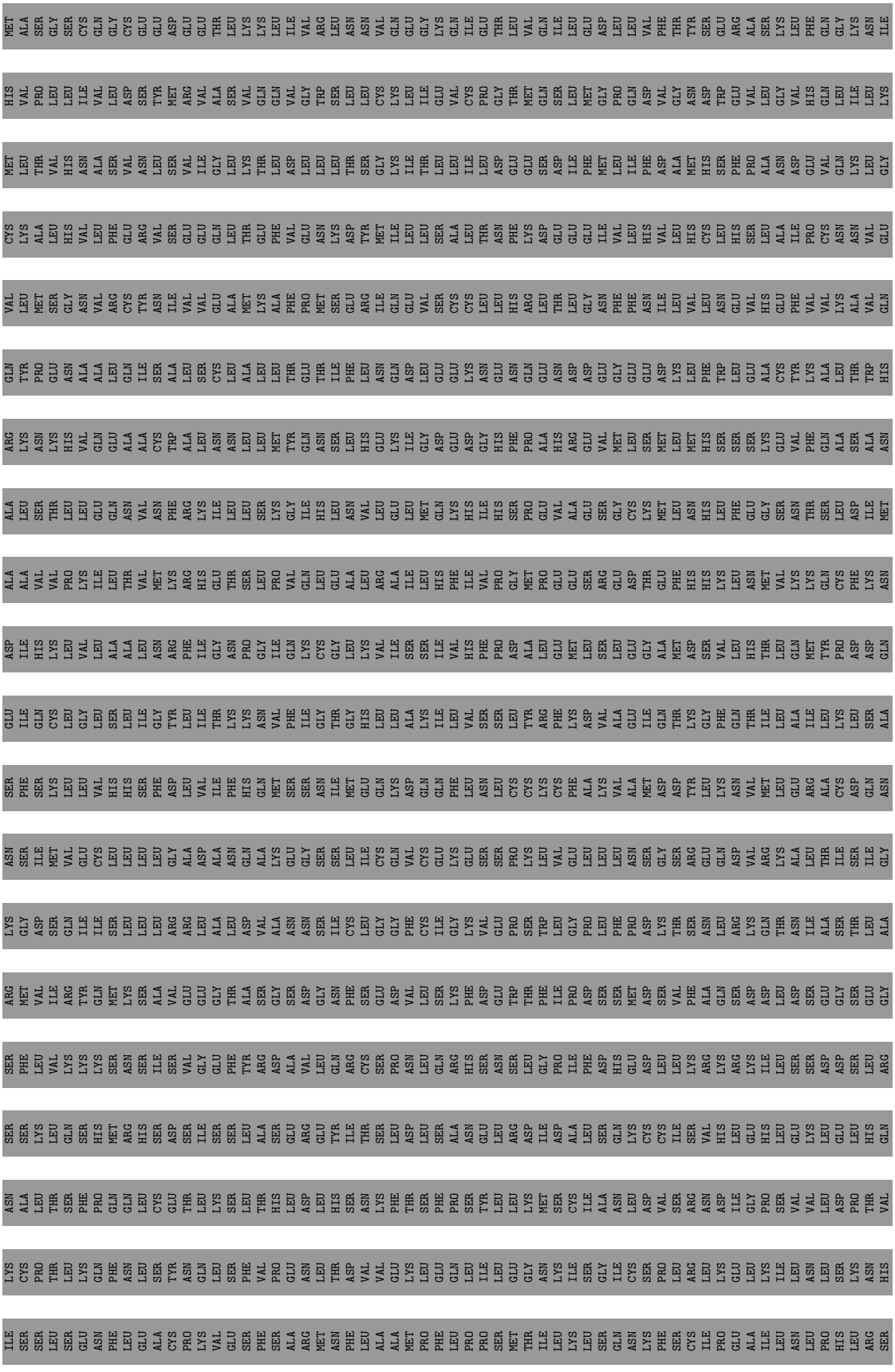
• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

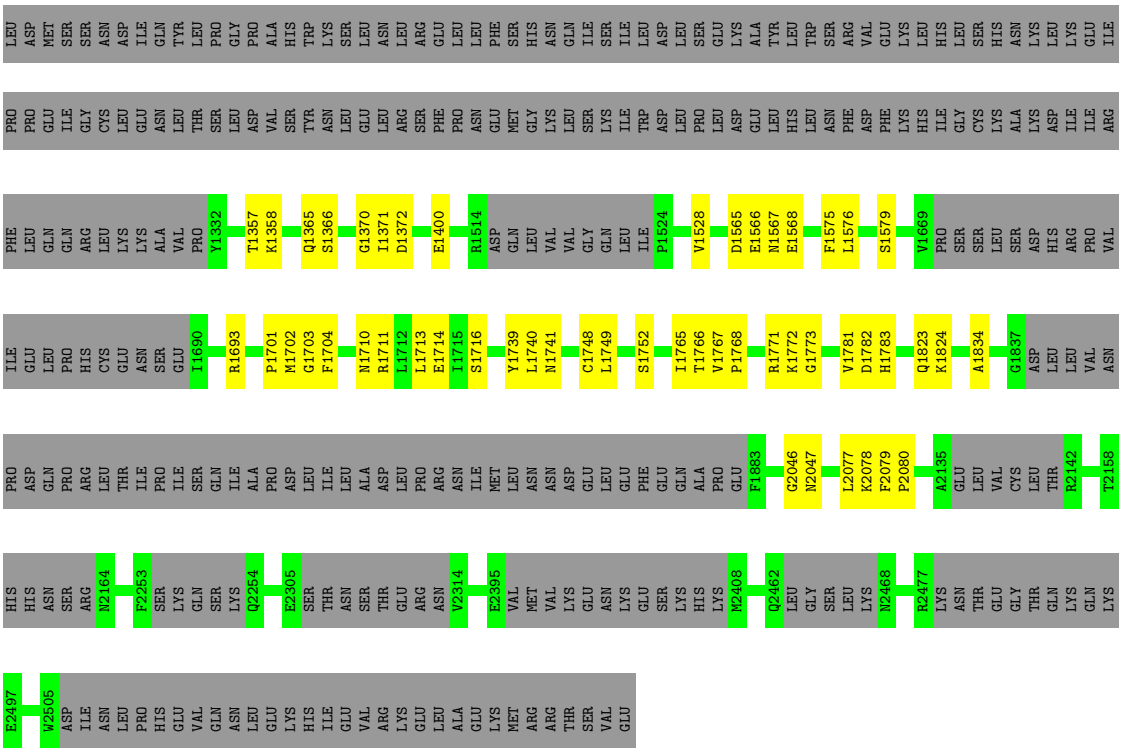
Chain 50-A:



• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

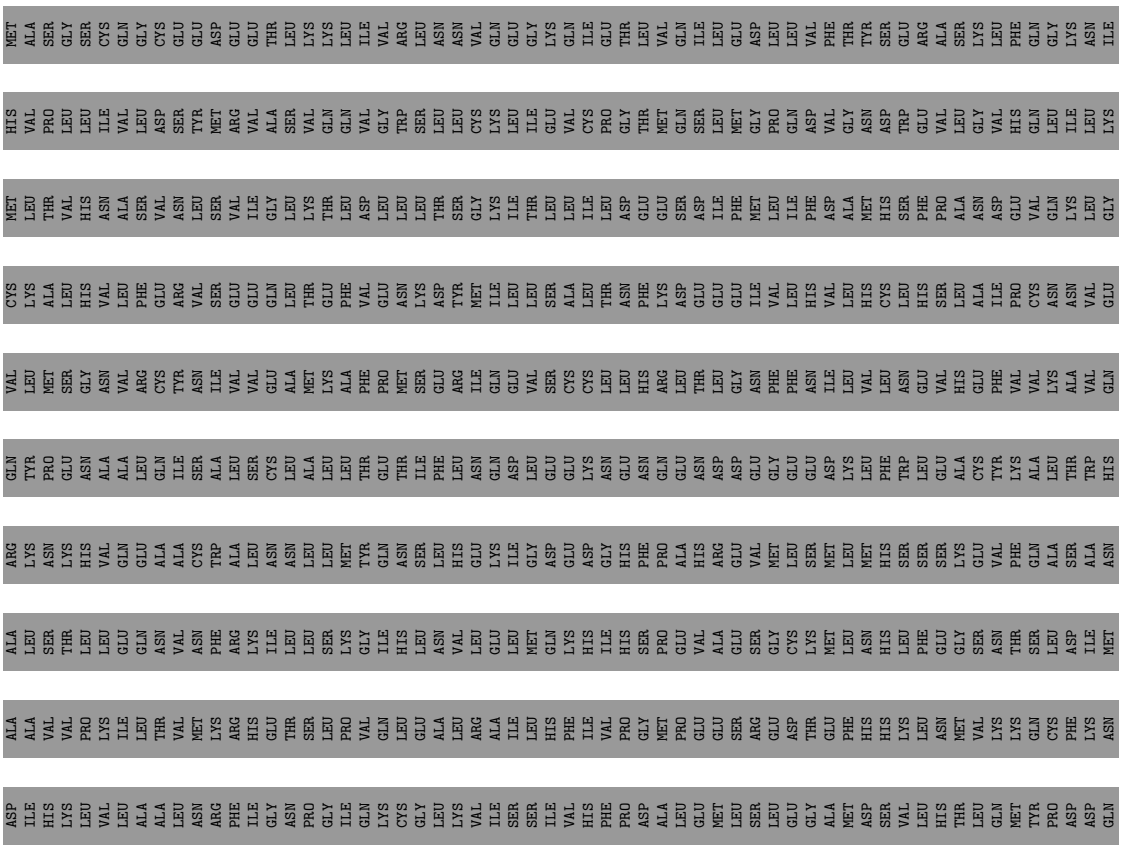
Chain 50-B: 39% 59%

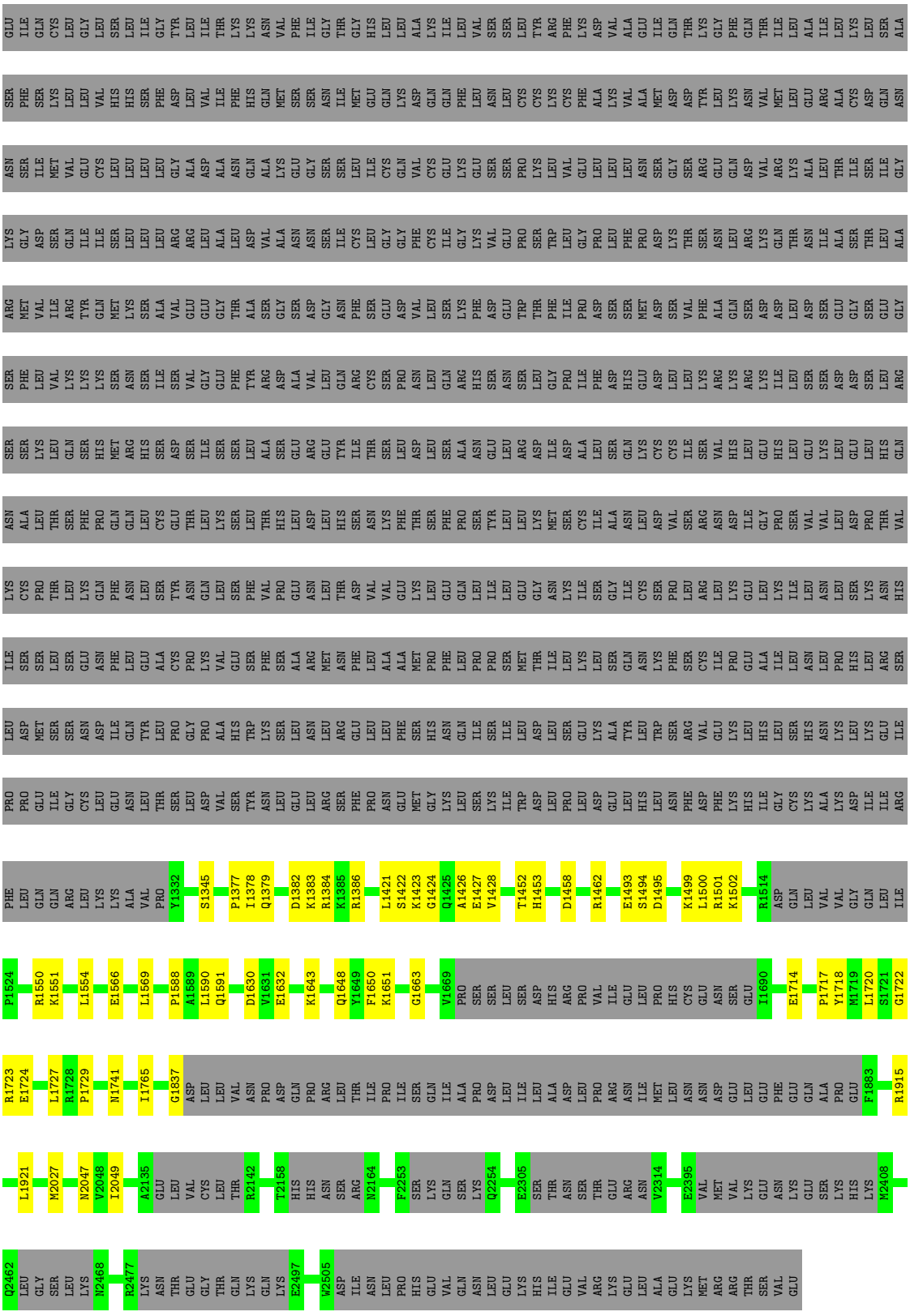




• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

Chain 51-A:





• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

Chain 51-B: 39% • 59%

MET ALA SER GLY SER CYS GLN GLY CYS GLU GLU ASP GLU GLU THR LEU LYS LYS LEU ILE VAL ARG LEU ASN ASN VAL GLN GLU GLY LYS GLN ILE GLU THR LEU VAL GLN ILE LEU GLU ASP LEU LEU VAL PHE THR TYR SER GLU ARG ALA SER LYS LEU PHE GLN GLY LYS ASN ILE

HIS VAL PRO LEU LEU ILE VAL LEU ASP SER TYR MET ARG VAL ALA SER VAL GLN GLN VAL GLY TRP SER LEU LEU CYS LYS LEU ILE GLU VAL CYS PRO GLY THR MET GLN SER LEU MET GLY PRO GLN ASP VAL GLY ASN ASP TRP GLU VAL LEU GLY VAL HIS GLN LEU ILE LEU LYS

MET LEU THR VAL HIS ASN ALA SER VAL ASN LEU SER VAL ILE GLY LEU LYS THR LEU ASP LEU LEU LEU THR SER GLY LYS ILE THR LEU LEU ILE LEU ASP GLU GLU SER ASP ILE PHE MET LEU ILE PHE ASP ALA MET HIS SER PHE PRO ALA ASN ASP GLU VAL GLN LYS LEU GLY

CYS LYS ALA LEU HIS VAL LEU PHE GLU ARG VAL SER GLU GLU GLN LEU THR GLU PHE VAL GLU ASN LYS ASP TYR MET ILE LEU LEU SER ALA LEU THR ASN PHE LYS ASP GLU GLU GLU ILE VAL LEU HIS VAL LEU HIS CYS LEU HIS SER LEU ALA ILE PRO CYS ASN ASN VAL GLU

VAL LEU MET SER GLY ASN VAL ARG CYS TYR ASN ILE VAL VAL GLU ALA MET LYS ALA PHE PRO MET SER GLU ARG ILE GLN GLU VAL SER CYS CYS LEU LEU HIS ARG LEU THR LEU GLY ASN PHE PHE ASN ILE LEU VAL LEU ASN GLU VAL HIS GLU PHE VAL VAL LYS ALA VAL GLN

GLN TYR PRO GLU ASN ALA ALA LEU GLN ILE SER ALA LEU SER CYS LEU ALA LEU LEU THR GLU THR ILE PHE LEU ASN GLN ASP LEU GLU GLU LYS ASN GLU ASN GLN GLU ASN ASP ASP GLU GLY GLU GLU ASP LYS LEU PHE TRP LEU GLU ALA CYS TYR LYS ALA LEU THR TRP HIS

ARG LYS ASN LYS HIS VAL GLN GLU ALA ALA CYS TRP ALA LEU ASN ASN LEU LEU MET TYR GLN ASN SER LEU HIS GLU LYS ILE GLY ASP GLU ASP GLY HIS PHE PRO ALA HIS ARG GLU VAL MET LEU SER MET LEU MET HIS SER SER SER LYS GLU VAL PHE GLN ALA SER ALA ASN

ALA LEU SER THR LEU LEU GLU GLN ASN VAL ASN PHE ARG LYS ILE LEU LEU SER LYS GLY ILE HIS LEU ASN VAL LEU GLU LEU MET GLN LYS HIS ILE HIS SER PRO GLU VAL ALA GLU SER GLY CYS LYS MET LEU ASN HIS LEU PHE GLU GLY SER ASN THR SER LEU ASP ILE MET

ALA ALA VAL VAL PRO LYS ILE LEU THR VAL MET LYS ARG HIS GLU THR SER LEU PRO VAL GLN LEU GLU ALA LEU ARG ALA ILE LEU HIS PHE ILE VAL PRO GLY MET PRO GLU GLU SER ARG GLU ASP THR GLU PHE HIS HIS LYS LEU ASN MET VAL LYS LYS GLN CYS PHE LYS ASN

ASP ILE HIS LYS LEU VAL LEU ALA ALA LEU ASN ARG PHE ILE GLY ASN PRO GLY ILE GLN LYS CYS GLY LEU LYS VAL ILE SER SER ILE VAL HIS PHE PRO ASP ALA LEU GLU MET LEU SER LEU GLU GLY ALA MET ASP SER VAL LEU HIS THR LEU GLN MET TYR PRO ASP ASP GLN

GLU ILE GLN CYS LEU GLY LEU SER LEU ILE GLY TYR LEU ILE THR LYS LYS ASN VAL PHE ILE GLY THR GLY HIS LEU LEU ALA LYS ILE LEU VAL SER SER LEU TYR ARG PHE LYS ASP VAL ALA GLU ILE GLN THR LYS GLY PHE GLN THR ILE LEU ALA ILE LEU LYS LEU SER ALA

SER PHE SER LYS LEU LEU VAL HIS HIS SER PHE ASP LEU VAL ILE PHE HIS GLN MET SER SER ASN ILE MET GLU GLN LYS ASP GLN GLN PHE LEU ASN LEU CYS CYS LYS CYS PHE ALA LYS VAL ALA MET ASP ASP TYR LEU LYS ASN VAL MET LEU GLU ARG ALA CYS ASP GLN ASN

ASN SER ILE MET VAL GLU CYS LEU LEU LEU LEU GLY ALA ASP ALA ASN GLN ALA LYS GLU GLY SER SER LEU ILE CYS GLN VAL CYS GLU LYS GLU SER SER PRO LYS LEU VAL GLU LEU LEU LEU ASN SER GLY SER ARG GLU GLN ASP VAL ARG LYS ALA LEU THR ILE SER ILE GLY

LYS GLY ASP SER GLN ILE ILE SER LEU LEU LEU ARG ARG LEU ALA LEU ASP VAL ALA ASN ASN SER ILE CYS LEU GLY GLY PHE CYS ILE GLY LYS VAL GLU PRO SER TRP LEU GLY PRO LEU PHE PRO ASP LYS THR SER ASN LEU ARG LYS GLN THR ASN ILE ALA SER THR LEU ALA

ARG MET VAL ILE ARG TYR GLN MET LYS SER ALA VAL GLU GLU GLY THR ALA SER GLY SER ASP GLY ASN PHE SER GLU ASP VAL LEU SER LYS PHE ASP GLU TRP THR PHE ILE PRO ASP SER SER MET ASP SER VAL PHE ALA GLN SER ASP ASP LEU ASP SER GLU GLY SER GLU GLY

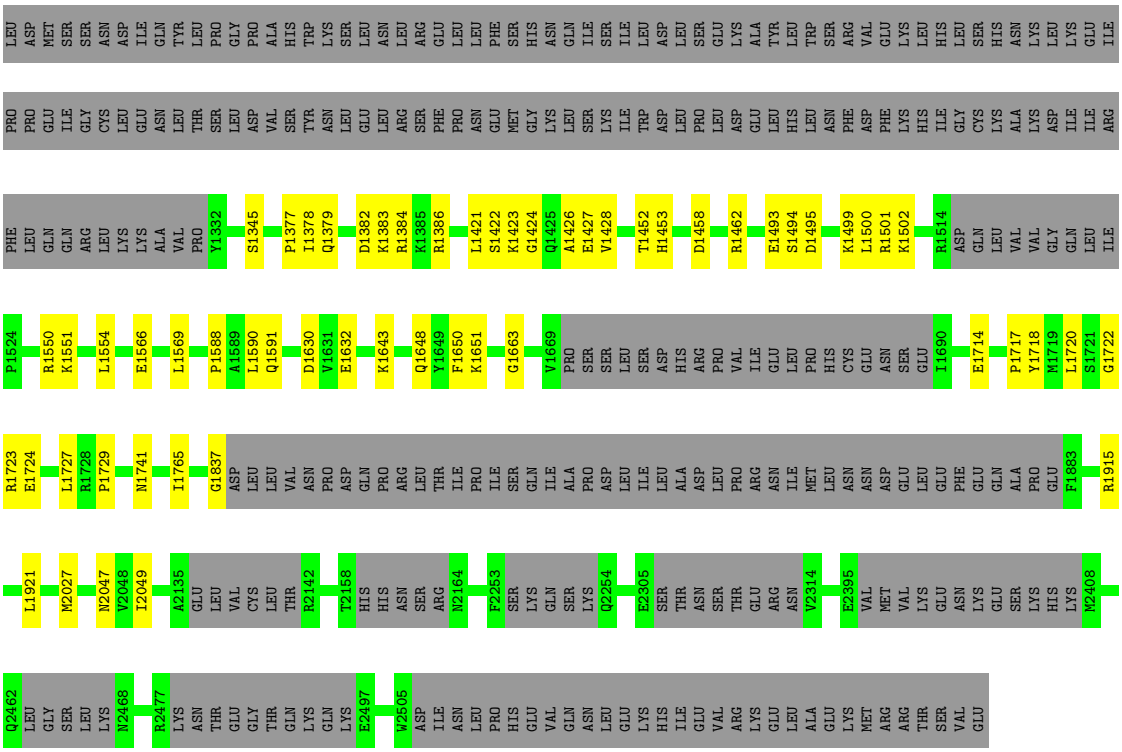
SER PHE LEU VAL LYS LYS LYS SER ASN SER ILE SER VAL GLY GLU PHE TYR ARG ASP ALA VAL LEU GLN ARG CYS SER PRO ASN LEU GLN ARG HIS SER ASN SER LEU GLY PRO ILE PHE ASP HIS GLU ASP LEU LEU LYS ARG LYS ARG LYS ILE LEU SER SER ASP ASP SER LEU ARG

SER SER LYS LEU GLN SER HIS MET ARG HIS SER ASP SER ILE SER SER LEU ALA SER GLU ARG GLU TYR ILE THR SER LEU ASP LEU SER ALA ASN GLU LEU ARG ASP ILE ASP ALA LEU SER GLN LYS CYS CYS ILE SER VAL HIS LEU GLU HIS LEU GLU LYS LEU GLU LEU HIS GLN

ASN ALA LEU THR SER PHE PRO GLN GLN LEU CYS GLU THR LEU LYS SER LEU THR HIS LEU ASP LEU HIS SER ASN LYS PHE THR SER PHE PRO SER TYR LEU LEU LYS MET SER CYS ILE ALA ASN LEU ASP VAL SER ARG ASN ASP ILE GLY PRO SER VAL VAL LEU ASP PRO THR VAL

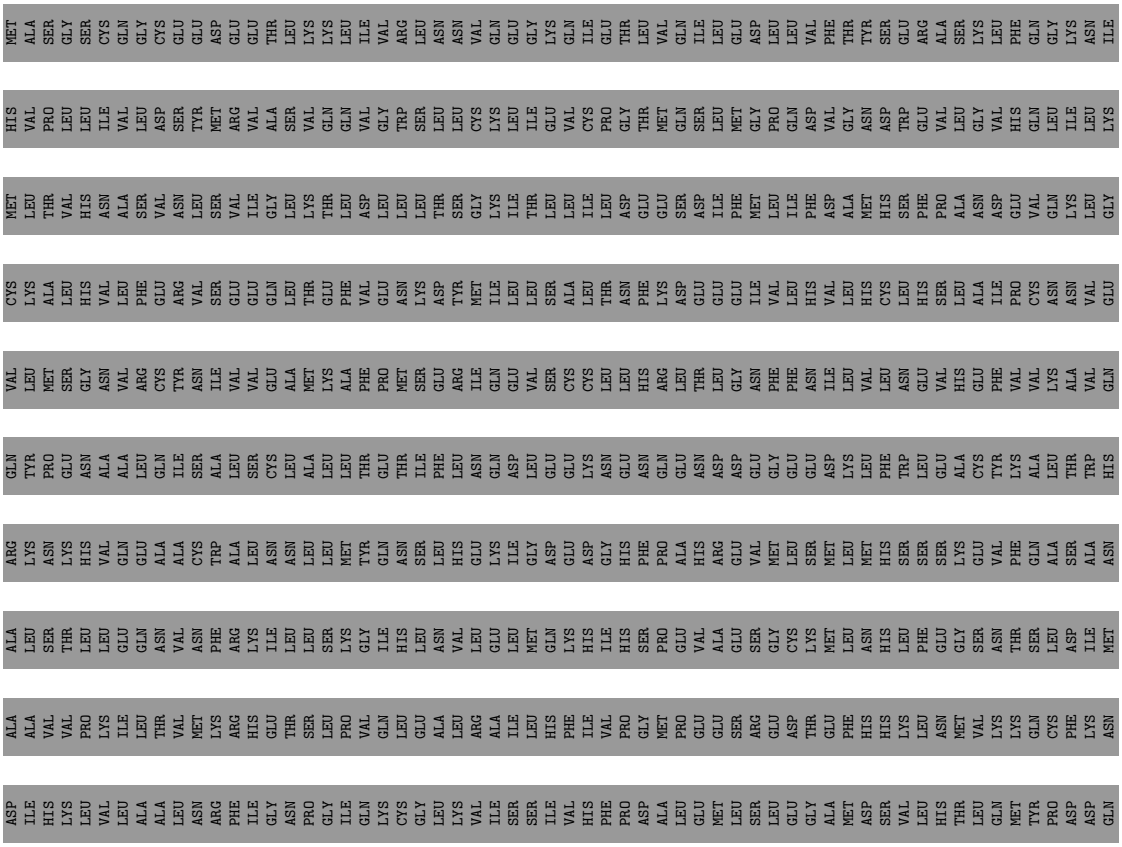
LYS CYS PRO THR LEU LYS GLN PHE ASN LEU SER TYR ASN GLN LEU SER PHE VAL PRO GLU ASN LEU THR ASP VAL VAL GLU LYS LEU GLU GLN LEU ILE LEU GLU GLY ASN LYS ILE SER GLY ILE CYS SER PRO LEU ARG LEU LYS GLU LEU LYS ILE LEU ASN LEU SER LYS ASN HIS

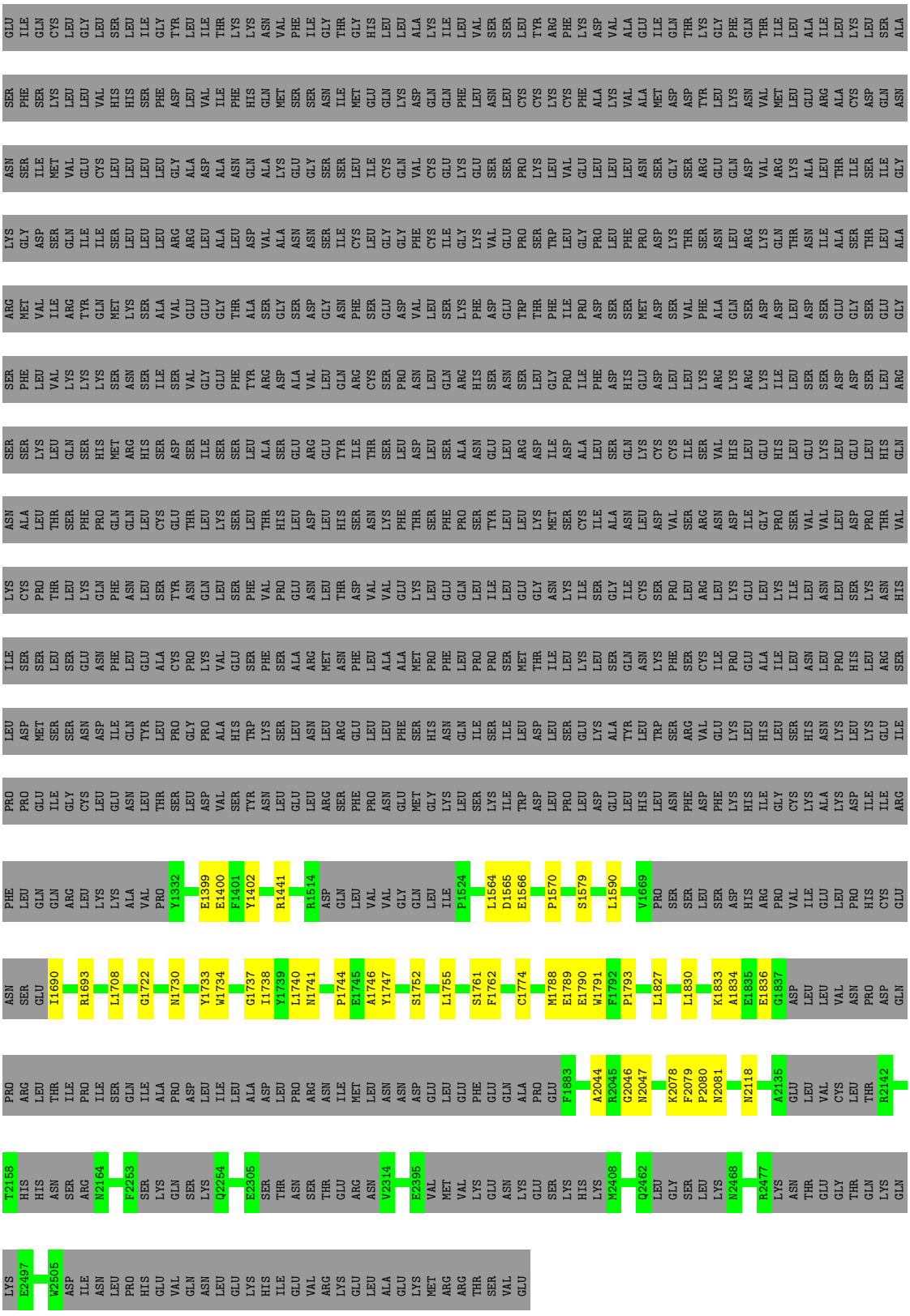
ILE SER SER LEU SER GLU ASN PHE LEU GLU ALA CYS PRO LYS VAL GLU SER PHE SER ALA ARG MET ASN PHE LEU ALA ALA MET PRO PHE LEU PRO PRO SER MET THR ILE LEU LYS LEU SER GLN ASN LYS PHE SER CYS ILE PRO GLU ALA ILE LEU ASN LEU PRO HIS LEU ARG SER



• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

Chain 52-A: 39% 59%





• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

Chain 52-B: 39% • 59%

MET ALA SER GLY SER CYS GLN GLY CYS GLU GLU ASP GLU GLU THR LEU LYS LYS LEU ILE VAL ARG LEU ASN ASN VAL GLN GLU GLY LYS GLN ILE GLU THR LEU VAL GLN ILE LEU GLU ASP LEU LEU VAL PHE THR TYR SER GLU ARG ALA SER LYS LEU PHE GLN GLY LYS ASN ILE

HIS VAL PRO LEU LEU ILE VAL LEU ASP SER TYR MET ARG VAL ALA SER VAL GLN GLN VAL GLY TRP SER LEU LEU CYS LYS LEU ILE GLU VAL CYS PRO GLY THR MET GLN SER LEU MET GLY PRO GLN ASP VAL GLY ASN ASP TRP GLU VAL LEU GLY VAL HIS GLN LEU ILE LEU LYS

MET LEU THR VAL HIS ASN ALA SER VAL ASN LEU SER VAL ILE GLY LEU LYS THR LEU ASP LEU LEU LEU THR SER GLY LYS ILE THR LEU LEU ILE LEU ASP GLU GLU SER ASP ILE PHE MET LEU ILE PHE ASP ALA MET HIS SER PHE PRO ALA ASN ASP GLU VAL GLN LYS LEU GLY

CYS LYS ALA LEU HIS VAL LEU PHE GLU ARG VAL SER GLU GLU GLN LEU THR GLU PHE VAL GLU ASN LYS ASP TYR MET ILE LEU LEU SER ALA LEU THR ASN PHE LYS ASP GLU GLU GLU ILE VAL LEU HIS VAL LEU HIS CYS LEU HIS SER LEU ALA ILE PRO CYS ASN ASN VAL GLU

VAL LEU MET SER GLY ASN VAL ARG CYS TYR ASN ILE VAL VAL GLU ALA MET LYS ALA PHE PRO MET SER GLU ARG ILE GLN GLU VAL SER CYS CYS LEU LEU HIS ARG LEU THR LEU GLY ASN PHE PHE ASN ILE LEU VAL LEU ASN GLU VAL HIS GLU PHE VAL VAL LYS ALA VAL GLN

GLN TYR PRO GLU ASN ALA ALA LEU GLN ILE SER ALA LEU SER CYS LEU ALA LEU LEU THR GLU THR ILE PHE LEU ASN GLN ASP LEU GLU GLU LYS ASN GLU ASN GLN GLU ASN ASP ASP GLU GLY GLU GLU ASP LYS LEU PHE TRP LEU GLU ALA CYS TYR LYS ALA LEU THR TRP HIS

ARG LYS ASN LYS HIS VAL GLN GLU ALA ALA CYS TRP ALA LEU ASN ASN LEU LEU MET TYR GLN ASN SER LEU HIS GLU LYS ILE GLY ASP GLU ASP GLY HIS PHE PRO ALA HIS ARG GLU VAL MET LEU SER MET LEU MET HIS SER SER SER LYS GLU VAL PHE GLN ALA SER ALA ASN

ALA LEU SER THR LEU LEU GLU GLN ASN VAL ASN PHE ARG LYS ILE LEU LEU SER LYS GLY ILE HIS LEU ASN VAL LEU GLU LEU MET GLN LYS HIS ILE HIS SER PRO GLU VAL ALA GLU SER GLY CYS LYS MET LEU ASN HIS LEU PHE GLU GLY SER ASN THR SER LEU ASP ILE MET

ALA ALA VAL VAL PRO LYS ILE LEU THR VAL MET LYS ARG HIS GLU THR SER LEU PRO VAL GLN LEU GLU ALA LEU ARG ALA ILE LEU HIS PHE ILE VAL PRO GLY MET PRO GLU GLU SER ARG GLU ASP THR GLU PHE HIS HIS LYS LEU ASN MET VAL LYS LYS GLN CYS PHE LYS ASN

ASP ILE HIS LYS LEU VAL LEU ALA ALA LEU ASN ARG PHE ILE GLY ASN PRO GLY ILE GLN LYS CYS GLY LEU LYS VAL ILE SER SER ILE VAL HIS PHE PRO ASP ALA LEU GLU MET LEU SER LEU GLU GLY ALA MET ASP SER VAL LEU HIS THR LEU GLN MET TYR PRO ASP ASP GLN

GLU ILE GLN CYS LEU GLY LEU SER LEU ILE GLY TYR LEU ILE THR LYS LYS ASN VAL PHE ILE GLY THR GLY HIS LEU LEU ALA LYS ILE LEU VAL SER SER LEU TYR ARG PHE LYS ASP VAL ALA GLU ILE GLN THR LYS GLY PHE GLN THR ILE LEU ALA ILE LEU LYS LEU SER ALA

SER PHE SER LYS LEU LEU VAL HIS HIS SER PHE ASP LEU VAL ILE PHE HIS GLN MET SER SER ASN ILE MET GLU GLN LYS ASP GLN GLN PHE LEU ASN LEU CYS CYS LYS CYS PHE ALA LYS VAL ALA MET ASP ASP TYR LEU LYS ASN VAL MET LEU GLU ARG ALA CYS ASP GLN ASN

ASN SER ILE MET VAL GLU CYS LEU LEU LEU LEU GLY ALA ASP ALA ASN GLN ALA LYS GLU GLY SER SER LEU ILE CYS GLN VAL CYS GLU LYS GLU SER SER PRO LYS LEU VAL GLU LEU LEU LEU ASN SER GLY SER ARG GLU GLN ASP VAL ARG LYS ALA LEU THR ILE SER ILE GLY

LYS GLY ASP SER GLN ILE ILE SER LEU LEU LEU ARG ARG LEU ALA LEU ASP VAL ALA ASN ASN SER ILE CYS LEU GLY GLY PHE CYS ILE GLY LYS VAL GLU PRO SER TRP LEU GLY PRO LEU PHE PRO ASP LYS THR SER ASN LEU ARG LYS GLN THR ASN ILE ALA SER THR LEU ALA

ARG MET VAL ILE ARG TYR GLN MET LYS SER ALA VAL GLU GLU GLY THR ALA SER GLY SER ASP GLY ASN PHE SER GLU ASP VAL LEU SER LYS PHE ASP GLU TRP THR PHE ILE PRO ASP SER SER MET ASP SER VAL PHE ALA GLN SER ASP ASP LEU ASP SER GLU GLY SER GLU GLY

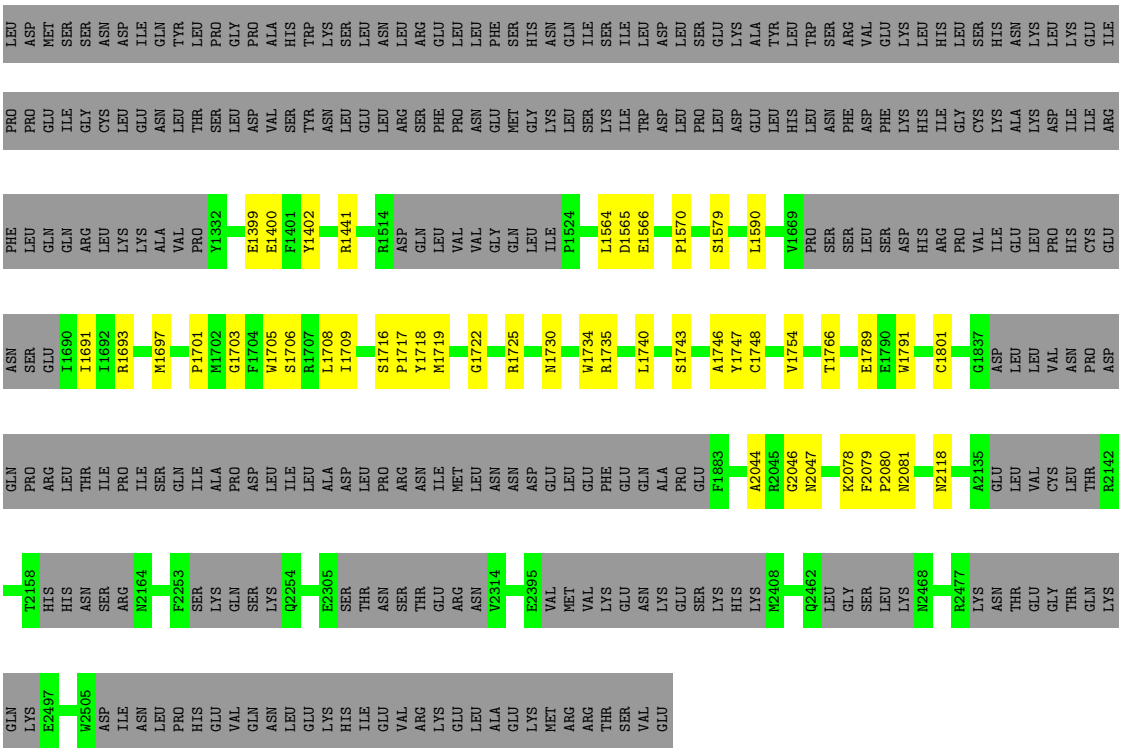
SER PHE LEU VAL LYS LYS LYS SER ASN SER ILE SER VAL GLY GLU PHE TYR ARG ASP ALA VAL LEU GLN ARG CYS SER PRO ASN LEU GLN ARG HIS SER ASN SER LEU GLY PRO ILE PHE ASP HIS GLU ASP LEU LEU LYS ARG LYS ARG LYS ILE LEU SER SER ASP ASP SER LEU ARG

SER SER LYS LEU GLN SER HIS MET ARG HIS SER ASP SER ILE SER SER LEU ALA SER GLU ARG GLU TYR ILE THR SER LEU ASP LEU SER ALA ASN GLU LEU ARG ASP ILE ASP ALA LEU SER GLN LYS CYS CYS ILE SER VAL HIS LEU GLU HIS LEU GLU LYS LEU GLU LEU HIS GLN

ASN ALA LEU THR SER PHE PRO GLN GLN LEU CYS GLU THR LEU LYS SER LEU THR HIS LEU ASP LEU HIS SER ASN LYS PHE THR SER PHE PRO SER TYR LEU LEU LYS MET SER CYS ILE ALA ASN LEU ASP VAL SER ARG ASN ASP ILE GLY PRO SER VAL VAL LEU ASP PRO THR VAL

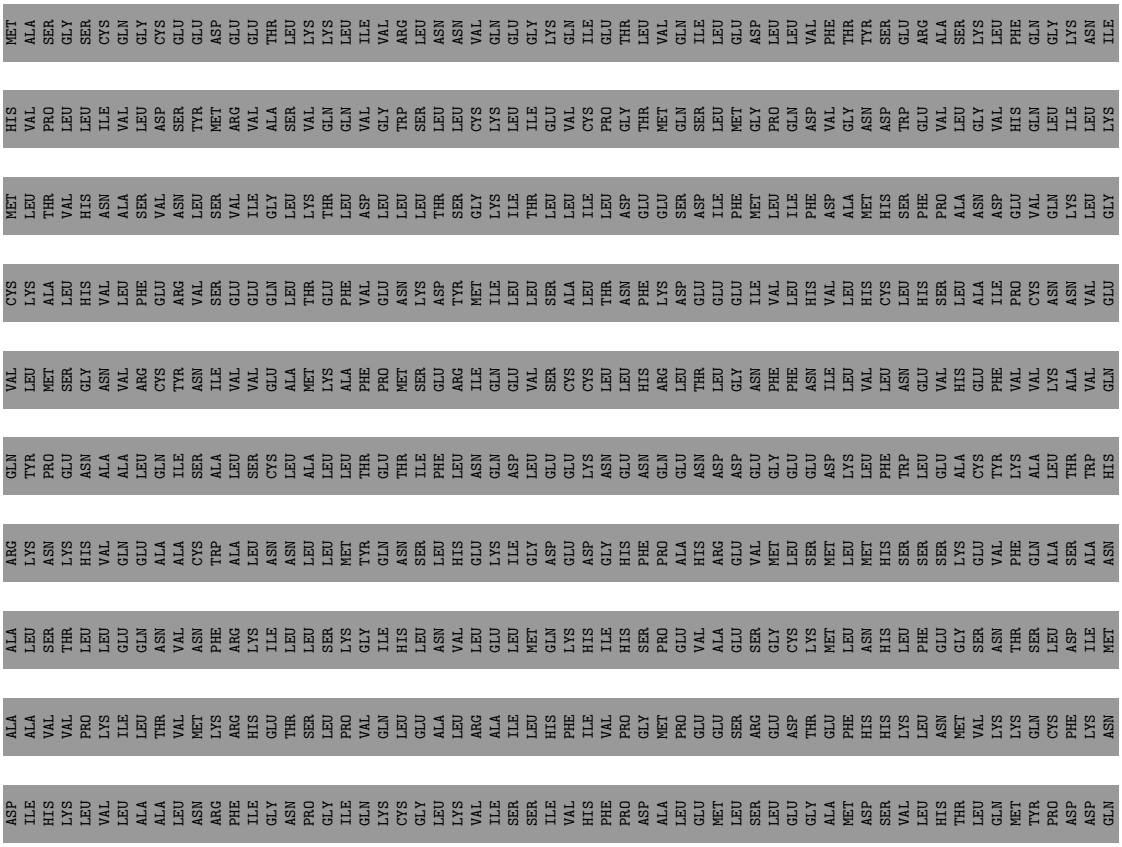
LYS CYS PRO THR LEU LYS GLN PHE ASN LEU SER TYR ASN GLN LEU SER PHE VAL PRO GLU ASN LEU THR ASP VAL VAL GLU LYS LEU GLU GLN LEU ILE LEU GLU GLY ASN LYS ILE SER GLY ILE CYS SER PRO LEU ARG LEU LYS GLU LEU LYS ILE LEU ASN LEU SER LYS ASN HIS

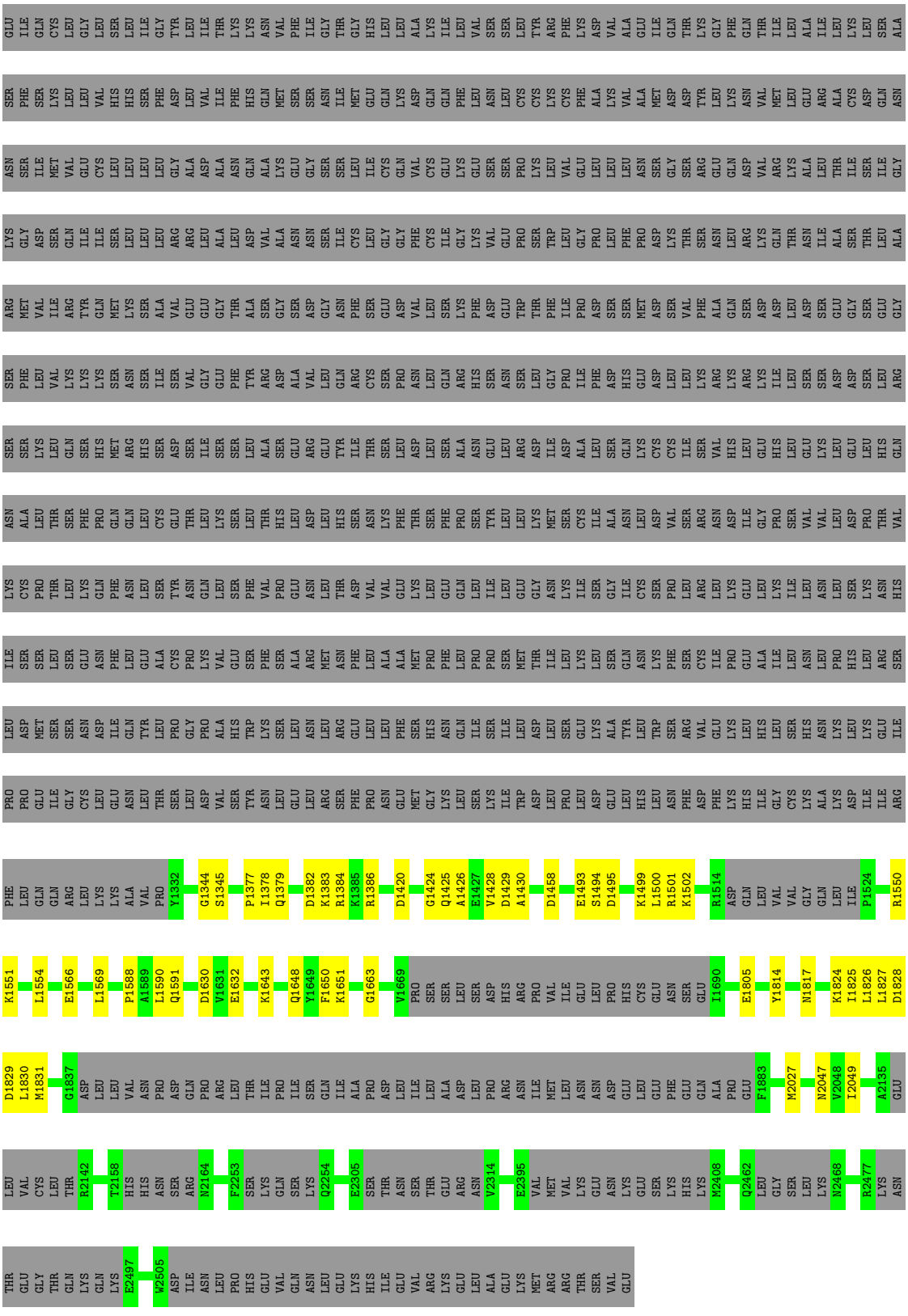
ILE SER SER LEU SER GLU ASN PHE LEU GLU ALA CYS PRO LYS VAL GLU SER PHE SER ALA ARG MET ASN PHE LEU ALA ALA MET PRO PHE LEU PRO PRO SER MET THR ILE LEU LYS LEU SER GLN ASN LYS PHE SER CYS ILE PRO GLU ALA ILE LEU ASN LEU PRO HIS LEU ARG SER



• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

Chain 53-A: 39% 59%





• Molecule 1: Leucine-rich repeat serine/threonine-protein kinase 2

Chain 53-B: 39% • 59%

MET ALA SER GLY SER CYS GLN GLY CYS GLU GLU ASP GLU GLU THR LEU LYS LYS LEU ILE VAL ARG LEU ASN ASN VAL GLN GLU GLY LYS GLN ILE GLU THR LEU VAL GLN ILE LEU GLU ASP LEU LEU VAL PHE THR TYR SER GLU ARG ALA SER LYS LEU PHE GLN GLY LYS ASN ILE

HIS VAL PRO LEU LEU ILE VAL LEU ASP SER TYR MET ARG VAL ALA SER VAL GLN GLN VAL GLY TRP SER LEU LEU CYS LYS LEU ILE GLU VAL CYS PRO GLY THR MET GLN SER LEU MET GLY PRO GLN ASP VAL GLY ASN ASP TRP GLU VAL LEU GLY VAL HIS GLN LEU ILE LEU LYS

MET LEU THR VAL HIS ASN ALA SER VAL ASN LEU SER VAL ILE GLY LEU LYS THR LEU ASP LEU LEU LEU THR SER GLY LYS ILE THR LEU LEU ILE LEU ASP GLU GLU SER ASP ILE PHE MET LEU ILE PHE ASP ALA MET HIS SER PHE PRO ALA ASN ASP GLU VAL GLN LYS LEU GLY

CYS LYS ALA LEU HIS VAL LEU PHE GLU ARG VAL SER GLU GLU GLN LEU THR GLU PHE VAL GLU ASN LYS ASP TYR MET ILE LEU LEU SER ALA LEU THR ASN PHE LYS ASP GLU GLU GLU ILE VAL LEU HIS VAL LEU HIS CYS LEU HIS SER LEU ALA ILE PRO CYS ASN ASN VAL GLU

VAL LEU MET SER GLY ASN VAL ARG CYS TYR ASN ILE VAL VAL GLU ALA MET LYS ALA PHE PRO MET SER GLU ARG ILE GLN GLU VAL SER CYS CYS LEU LEU HIS ARG LEU THR LEU GLY ASN PHE PHE ASN ILE LEU VAL LEU ASN GLU VAL HIS GLU PHE VAL VAL LYS ALA VAL GLN

GLN TYR PRO GLU ASN ALA ALA LEU GLN ILE SER ALA LEU SER CYS LEU ALA LEU LEU THR GLU THR ILE PHE LEU ASN GLN ASP LEU GLU GLU LYS ASN GLU ASN GLN GLU ASN ASP ASP GLU GLY GLU GLU ASP LYS LEU PHE TRP LEU GLU ALA CYS TYR LYS ALA LEU THR TRP HIS

ARG LYS ASN LYS HIS VAL GLN GLU ALA ALA CYS TRP ALA LEU ASN ASN LEU LEU MET TYR GLN ASN SER LEU HIS GLU LYS ILE GLY ASP GLU ASP GLY HIS PHE PRO ALA HIS ARG GLU VAL MET LEU SER MET LEU MET HIS SER SER SER LYS GLU VAL PHE GLN ALA SER ALA ASN

ALA LEU SER THR LEU LEU GLU GLN ASN VAL ASN PHE ARG LYS ILE LEU LEU SER LYS GLY ILE HIS LEU ASN VAL LEU GLU LEU MET GLN LYS HIS ILE HIS SER PRO GLU VAL ALA GLU SER GLY CYS LYS MET LEU ASN HIS LEU PHE GLU GLY SER ASN THR SER LEU ASP ILE MET

ALA ALA VAL VAL PRO LYS ILE LEU THR VAL MET LYS ARG HIS GLU THR SER LEU PRO VAL GLN LEU GLU ALA LEU ARG ALA ILE LEU HIS PHE ILE VAL PRO GLY MET PRO GLU GLU SER ARG GLU ASP THR GLU PHE HIS HIS LYS LEU ASN MET VAL LYS LYS GLN CYS PHE LYS ASN

ASP ILE HIS LYS LEU VAL LEU ALA ALA LEU ASN ARG PHE ILE GLY ASN PRO GLY ILE GLN LYS CYS GLY LEU LYS VAL ILE SER SER ILE VAL HIS PHE PRO ASP ALA LEU GLU MET LEU SER LEU GLU GLY ALA MET ASP SER VAL LEU HIS THR LEU GLN MET TYR PRO ASP ASP GLN

GLU ILE GLN CYS LEU GLY LEU SER LEU ILE GLY TYR LEU ILE THR LYS LYS ASN VAL PHE ILE GLY THR GLY HIS LEU LEU ALA LYS ILE LEU VAL SER SER LEU TYR ARG PHE LYS ASP VAL ALA GLU ILE GLN THR LYS GLY PHE GLN THR ILE LEU ALA ILE LEU LYS LEU SER ALA

SER PHE SER LYS LEU LEU VAL HIS HIS SER PHE ASP LEU VAL ILE PHE HIS GLN MET SER SER ASN ILE MET GLU GLN LYS ASP GLN GLN PHE LEU ASN LEU CYS CYS LYS CYS PHE ALA LYS VAL ALA MET ASP ASP TYR LEU LYS ASN VAL MET LEU GLU ARG ALA CYS ASP GLN ASN

ASN SER ILE MET VAL GLU CYS LEU LEU LEU LEU GLY ALA ASP ALA ASN GLN ALA LYS GLU GLY SER SER LEU ILE CYS GLN VAL CYS GLU LYS GLU SER SER PRO LYS LEU VAL GLU LEU LEU LEU ASN SER GLY SER ARG GLU GLN ASP VAL ARG LYS ALA LEU THR ILE SER ILE GLY

LYS GLY ASP SER GLN ILE ILE SER LEU LEU LEU ARG ARG LEU ALA LEU ASP VAL ALA ASN ASN SER ILE CYS LEU GLY GLY PHE CYS ILE GLY LYS VAL GLU PRO SER TRP LEU GLY PRO LEU PHE PRO ASP LYS THR SER ASN LEU ARG LYS GLN THR ASN ILE ALA SER THR LEU ALA

ARG MET VAL ILE ARG TYR GLN MET LYS SER ALA VAL GLU GLU GLY THR ALA SER GLY SER ASP GLY ASN PHE SER GLU ASP VAL LEU SER LYS PHE ASP GLU TRP THR PHE ILE PRO ASP SER SER MET ASP SER VAL PHE ALA GLN SER ASP ASP LEU ASP SER GLU GLY SER GLU GLY

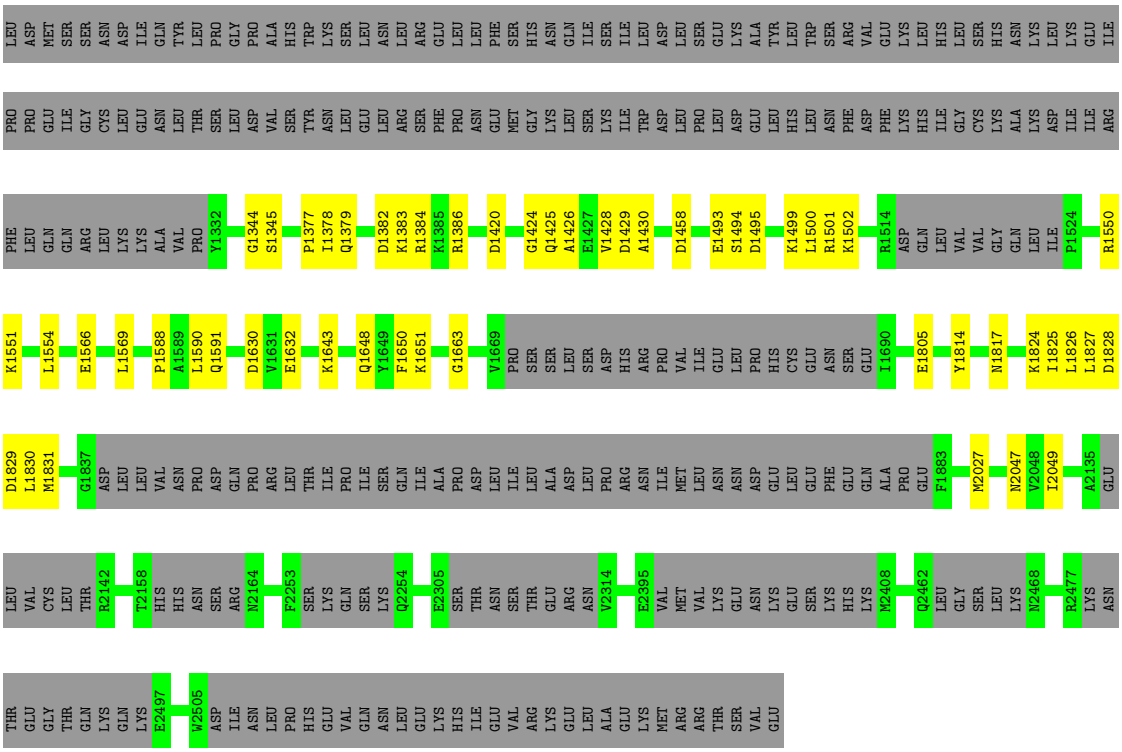
SER PHE LEU VAL LYS LYS LYS SER ASN SER ILE SER VAL GLY GLU PHE TYR ARG ASP ALA VAL LEU GLN ARG CYS SER PRO ASN LEU GLN ARG HIS SER ASN SER LEU GLY PRO ILE PHE ASP HIS GLU ASP LEU LEU LYS ARG LYS ARG LYS ILE LEU SER SER ASP ASP SER LEU ARG

SER SER LYS LEU GLN SER HIS MET ARG HIS SER ASP SER ILE SER SER LEU ALA SER GLU ARG GLU TYR ILE THR SER LEU ASP LEU SER ALA ASN GLU LEU ARG ASP ILE ASP ALA LEU SER GLN LYS CYS CYS ILE SER VAL HIS LEU GLU HIS LEU GLU LYS LEU GLU LEU HIS GLN

ASN ALA LEU THR SER PHE PRO GLN GLN LEU CYS GLU THR LEU LYS SER LEU THR HIS LEU ASP LEU HIS SER ASN LYS PHE THR SER PHE PRO SER TYR LEU LEU LYS MET SER CYS ILE ALA ASN LEU ASP VAL SER ARG ASN ASP ILE GLY PRO SER VAL VAL LEU ASP PRO THR VAL

LYS CYS PRO THR LEU LYS GLN PHE ASN LEU SER TYR ASN GLN LEU SER PHE VAL PRO GLU ASN LEU THR ASP VAL VAL GLU LYS LEU GLU GLN LEU ILE LEU GLU GLY ASN LYS ILE SER GLY ILE CYS SER PRO LEU ARG LEU LYS GLU LEU LYS ILE LEU ASN LEU SER LYS ASN HIS

ILE SER SER LEU SER GLU ASN PHE LEU GLU ALA CYS PRO LYS VAL GLU SER PHE SER ALA ARG MET ASN PHE LEU ALA ALA MET PRO PHE LEU PRO PRO SER MET THR ILE LEU LYS LEU SER GLN ASN LYS PHE SER CYS ILE PRO GLU ALA ILE LEU ASN LEU PRO HIS LEU ARG SER


LEU ASP MET SER SER ASN ASP ILE GLN TYR LEU PRO GLY PRO ALA HIS TRP LYS SER LEU ASN LEU ARG GLU LEU LEU PHE SER HIS ASN GLN ILE SER ILE LEU ASP LEU SER GLU LYS ALA TYR LEU TRP SER ARG VAL GLU LYS LEU HIS LEU SER HIS ASN LYS LEU LYS GLU ILE
PRO PRO GLU ILE GLY CYS LEU GLU ASN LEU THR SER LEU ASP VAL SER TYR ASN LEU GLU LEU ARG SER PHE PRO ASN GLU MET GLY LYS LEU SER LYS ILE TRP ASP LEU PRO LEU ASP GLU LEU HIS LEU ASN PHE ASP PHE LYS HIS ILE GLY CYS LYS ALA LYS ASP ILE ILE ARG
PHE LEU GLN GLN ARG LEU LYS LYS ALA VAL PRO Y1332 G1344 S1345 P1377 I1378 Q1379 D1382 K1383 R1384 K1385 R1386 D1420 G1424 Q1425 A1426 E1427 V1428 D1429 A1430 D1458 E1493 S1494 D1495 K1499 L1500 R1501 K1502 R1514 ASP GLN LEU VAL VAL GLY GLN LEU ILE P1524 R1550
K1551 L1554 E1566 L1569 P1588 A1589 L1590 Q1591 D1630 Y1631 E1632 K1643 Q1648 Y1649 F1650 K1651 G1663 V1669 PRO SER SER LEU SER ASP HIS ARG PRO VAL ILE GLU LEU PRO HIS CYS GLU ASN SER GLU I1690 E1805 Y1814 N1817 K1824 I1825 L1826 L1827 D1828
D1829 L1830 M1831 G1837 ASP LEU LEU VAL ASN PRO ASP GLN PRO ARG LEU THR ILE PRO ILE SER GLN ILE ALA PRO ASP LEU ILE LEU ALA ASP LEU PRO ARG ASN ILE MET LEU ASN ASN ASP GLU LEU GLU PHE GLU GLN ALA PRO GLU F1883 M2027 N2047 V2048 I2049 A2135 GLU
LEU VAL CYS LEU THR R2142 T2158 HIS HIS ASN SER ARG N2164 F2253 SER LYS GLN SER LYS Q2254 E2305 SER THR ASN SER THR GLU ARG ASN V2314 E2395 VAL MET VAL LYS GLU ASN LYS GLU SER LYS HIS LYS M2408 Q2462 LEU GLY SER LEU LYS N2468 R2477 LYS ASN
THR GLU GLY THR GLN LYS GLN LYS E2497 W2505 ASP ILE ASN LEU PRO HIS GLU VAL GLN ASN LEU GLU GLU LYS HIS ILE GLU VAL ARG LYS GLU LEU ALA GLU LYS MET ARG ARG THR SER VAL GLU

4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SUBTOMOGRAM AVERAGING	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of subtomograms used	4307	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING ONLY	Depositor
Microscope	FEI POLARA 300	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	2	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	0.209	Depositor
Minimum map value	-0.128	Depositor
Average map value	0.003	Depositor
Map value standard deviation	0.031	Depositor
Recommended contour level	0.05	Depositor
Map size (Å)	281.6, 281.6, 281.6	wwPDB
Map dimensions	128, 128, 128	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	2.2, 2.2, 2.2	Depositor

5 Model quality

5.1 Standard geometry

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 5$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

There are no protein, RNA or DNA chains available to summarize Z scores of covalent bonds and angles.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of hydrogen atoms added and optimized by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, whereas Symm-Clashes lists symmetry-related clashes.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	1-A	1040	0	0	2	0
1	1-B	1040	0	0	2	0
1	2-A	1040	0	0	0	0
1	2-B	1040	0	0	2	0
1	3-A	1040	0	0	7	0
1	3-B	1040	0	0	2	0
1	4-A	1040	0	0	12	0
1	4-B	1040	0	0	7	0
1	5-A	1040	0	0	17	0
1	5-B	1040	0	0	16	0
1	6-A	1040	0	0	4	0
1	6-B	1040	0	0	4	0
1	7-A	1040	0	0	42	0
1	7-B	1040	0	0	42	0
1	8-A	1040	0	0	19	0
1	8-B	1040	0	0	19	0
1	9-A	1040	0	0	6	0
1	9-B	1040	0	0	16	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	10-A	1040	0	0	20	0
1	10-B	1040	0	0	20	0
1	11-A	1040	0	0	1	0
1	11-B	1040	0	0	0	0
1	12-A	1040	0	0	11	0
1	12-B	1040	0	0	11	0
1	13-A	1040	0	0	18	0
1	13-B	1040	0	0	18	0
1	14-A	1040	0	0	32	0
1	14-B	1040	0	0	32	0
1	15-A	1040	0	0	14	0
1	15-B	1040	0	0	14	0
1	16-A	1040	0	0	31	0
1	16-B	1040	0	0	31	0
1	17-A	1040	0	0	7	0
1	17-B	1040	0	0	7	0
1	18-A	1040	0	0	11	0
1	18-B	1040	0	0	11	0
1	19-A	1040	0	0	34	0
1	19-B	1040	0	0	34	0
1	20-A	1040	0	0	10	0
1	20-B	1040	0	0	10	0
1	21-A	1040	0	0	18	0
1	21-B	1040	0	0	18	0
1	22-A	1040	0	0	13	0
1	22-B	1040	0	0	13	0
1	23-A	1040	0	0	7	0
1	23-B	1040	0	0	7	0
1	24-A	1040	0	0	39	0
1	24-B	1040	0	0	39	0
1	25-A	1040	0	0	42	0
1	25-B	1040	0	0	42	0
1	26-A	1040	0	0	7	0
1	26-B	1040	0	0	7	0
1	27-A	1040	0	0	26	0
1	27-B	1040	0	0	26	0
1	28-A	1040	0	0	16	0
1	28-B	1040	0	0	16	0
1	29-A	1040	0	0	22	0
1	29-B	1040	0	0	22	0
1	30-A	1040	0	0	17	0
1	30-B	1040	0	0	17	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	31-A	1040	0	0	7	0
1	31-B	1040	0	0	7	0
1	32-A	1040	0	0	12	0
1	32-B	1040	0	0	12	0
1	33-A	1040	0	0	17	0
1	33-B	1040	0	0	17	0
1	34-A	1040	0	0	15	0
1	34-B	1040	0	0	15	0
1	35-A	1040	0	0	13	0
1	35-B	1040	0	0	14	0
1	36-A	1040	0	0	23	0
1	36-B	1040	0	0	23	0
1	37-A	1040	0	0	10	0
1	37-B	1040	0	0	11	0
1	38-A	1040	0	0	49	0
1	38-B	1040	0	0	49	0
1	39-A	1040	0	0	31	0
1	39-B	1040	0	0	31	0
1	40-A	1040	0	0	26	0
1	40-B	1040	0	0	26	0
1	41-A	1040	0	0	62	0
1	41-B	1040	0	0	62	0
1	42-A	1040	0	0	20	0
1	42-B	1040	0	0	21	0
1	43-A	1040	0	0	24	0
1	43-B	1040	0	0	24	0
1	44-A	1040	0	0	4	0
1	44-B	1040	0	0	0	0
1	45-A	1040	0	0	17	0
1	45-B	1040	0	0	17	0
1	46-A	1040	0	0	38	0
1	46-B	1040	0	0	38	0
1	47-A	1040	0	0	13	0
1	47-B	1040	0	0	13	0
1	48-A	1040	0	0	34	0
1	48-B	1040	0	0	34	0
1	49-A	1040	0	0	23	0
1	49-B	1040	0	0	24	0
1	50-A	1040	0	0	50	0
1	50-B	1040	0	0	50	0
1	51-A	1040	0	0	36	0
1	51-B	1040	0	0	36	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	52-A	1040	0	0	46	0
1	52-B	1040	0	0	46	0
1	53-A	1040	0	0	34	0
1	53-B	1040	0	0	34	0
All	All	110240	0	0	1840	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 17.

The worst 5 of 1840 close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1591:GLN:CA	1:A:2118:ASN:CA	1.75	1.65
1:A:1428:VAL:CA	1:A:1811:TRP:CA	1.75	1.64
1:A:1458:ASP:CA	1:A:1601:LYS:CA	1.77	1.63
1:B:1426:ALA:CA	1:B:1807:LEU:CA	1.76	1.63
1:A:1740:LEU:CA	1:B:1754:VAL:CA	1.76	1.62

There are no symmetry-related clashes.

5.3 Torsion angles

5.3.1 Protein backbone

There are no protein backbone outliers to report in this entry.

5.3.2 Protein sidechains

There are no protein residues with a non-rotameric sidechain to report in this entry.

5.3.3 RNA

There are no RNA molecules in this entry.

5.4 Non-standard residues in protein, DNA, RNA chains

There are no non-standard protein/DNA/RNA residues in this entry.

5.5 Carbohydrates (i)

There are no monosaccharides in this entry.

5.6 Ligand geometry (i)

There are no ligands in this entry.

5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

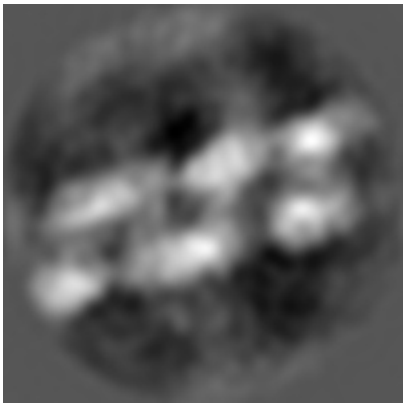
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-20825. These allow visual inspection of the internal detail of the map and identification of artifacts.

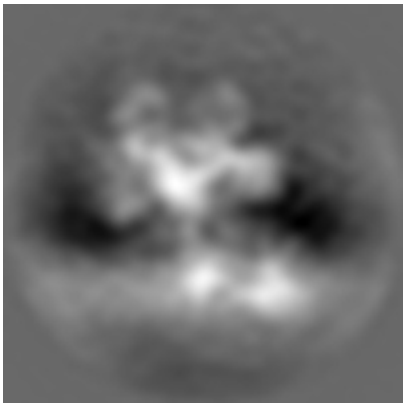
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections

6.1.1 Primary map



X



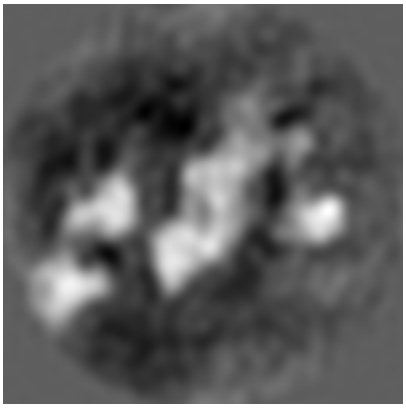
Y

Z

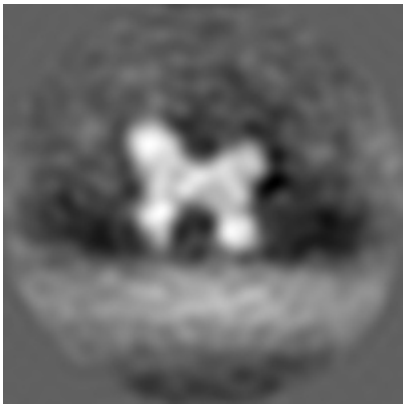
The images above show the map projected in three orthogonal directions.

6.2 Central slices

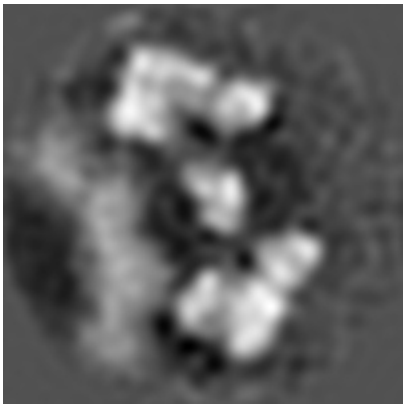
6.2.1 Primary map



X Index: 64



Y Index: 64

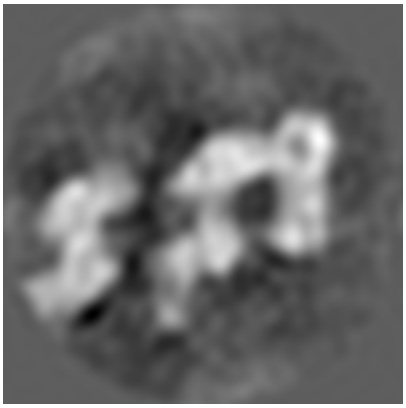


Z Index: 64

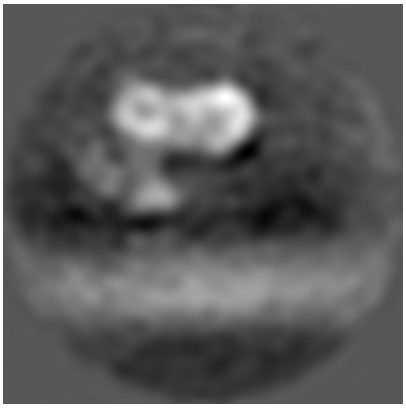
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

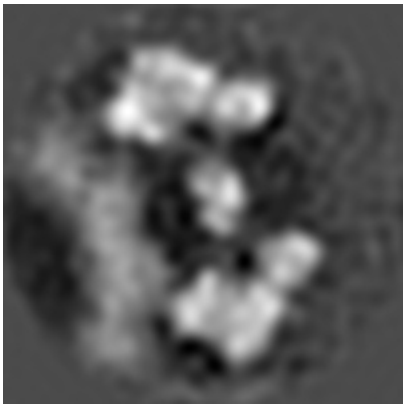
6.3.1 Primary map



X Index: 76



Y Index: 49

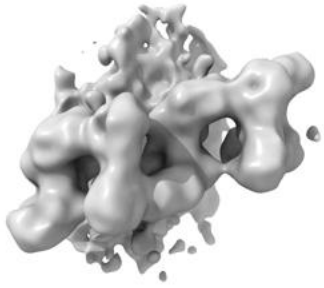


Z Index: 62

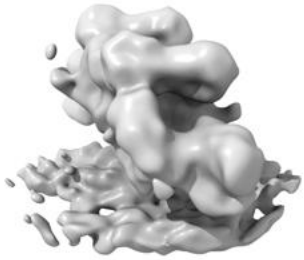
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal surface views (i)

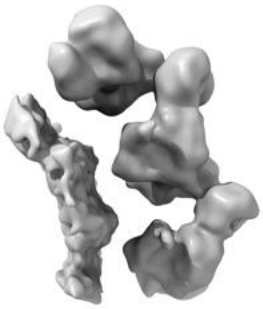
6.4.1 Primary map



X



Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.05. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

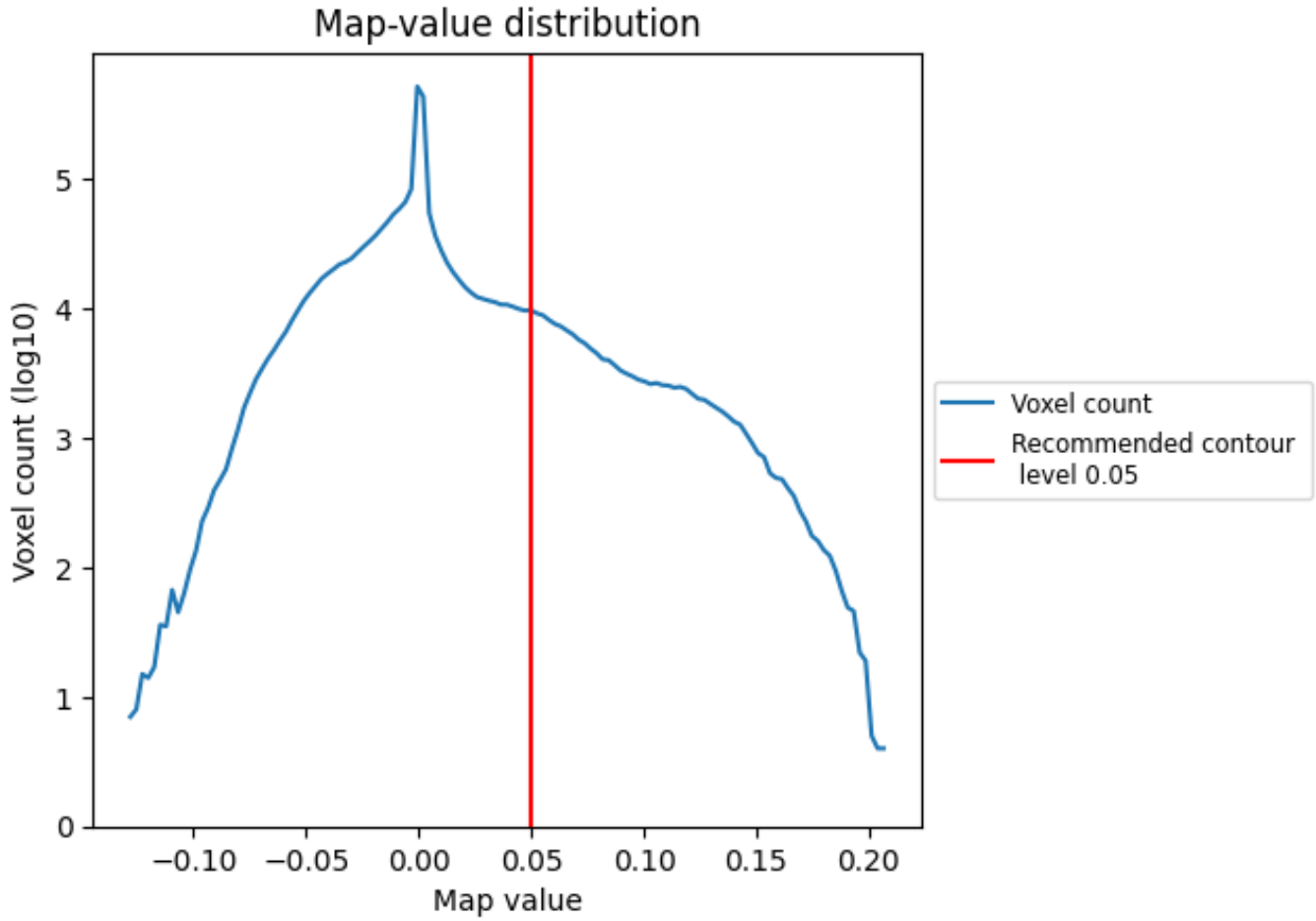
6.5 Mask visualisation (i)

This section was not generated. No masks/segmentation were deposited.

7 Map analysis

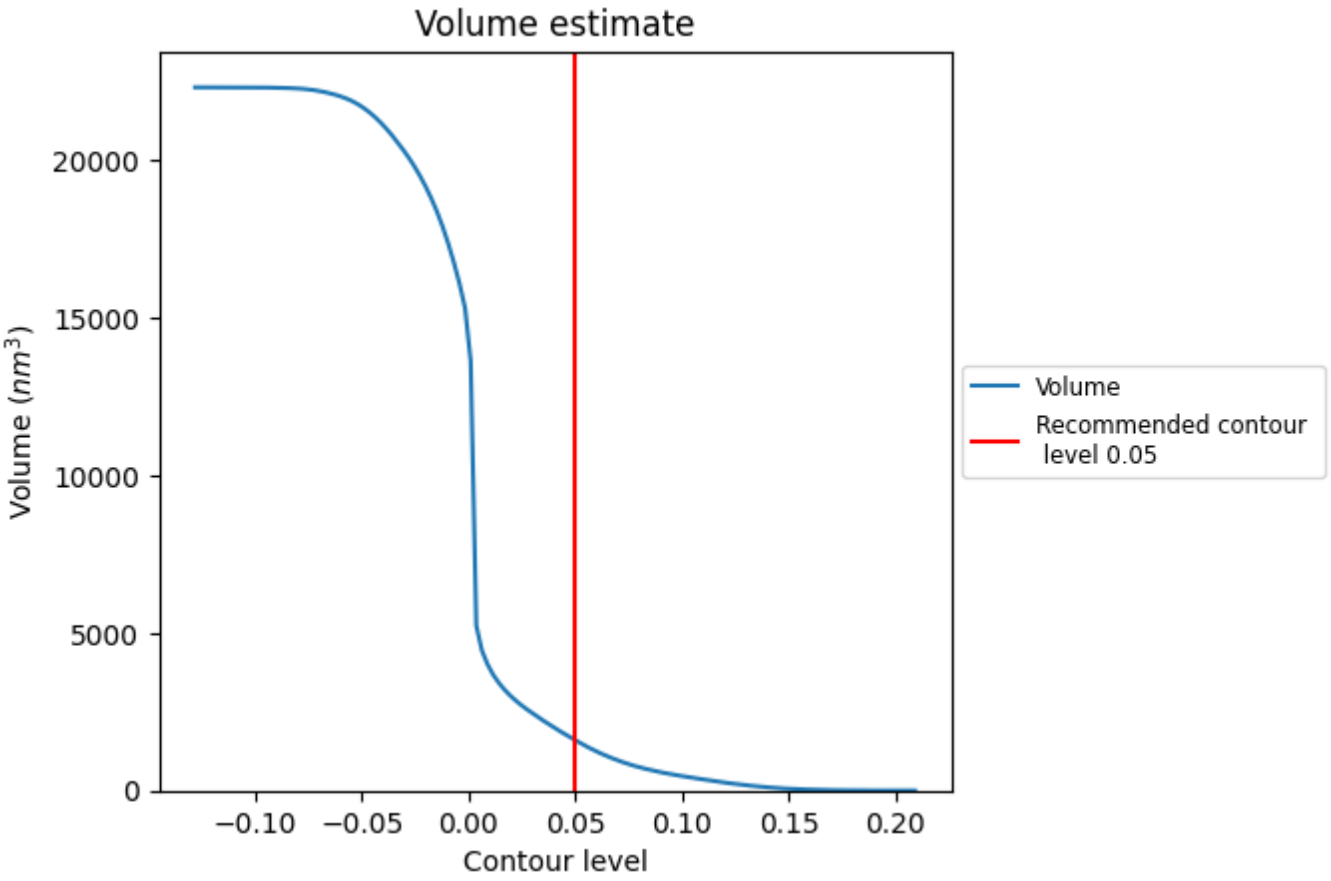
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution



The map-value distribution is plotted in 128 intervals along the x-axis. The y-axis is logarithmic. A spike in this graph at zero usually indicates that the volume has been masked.

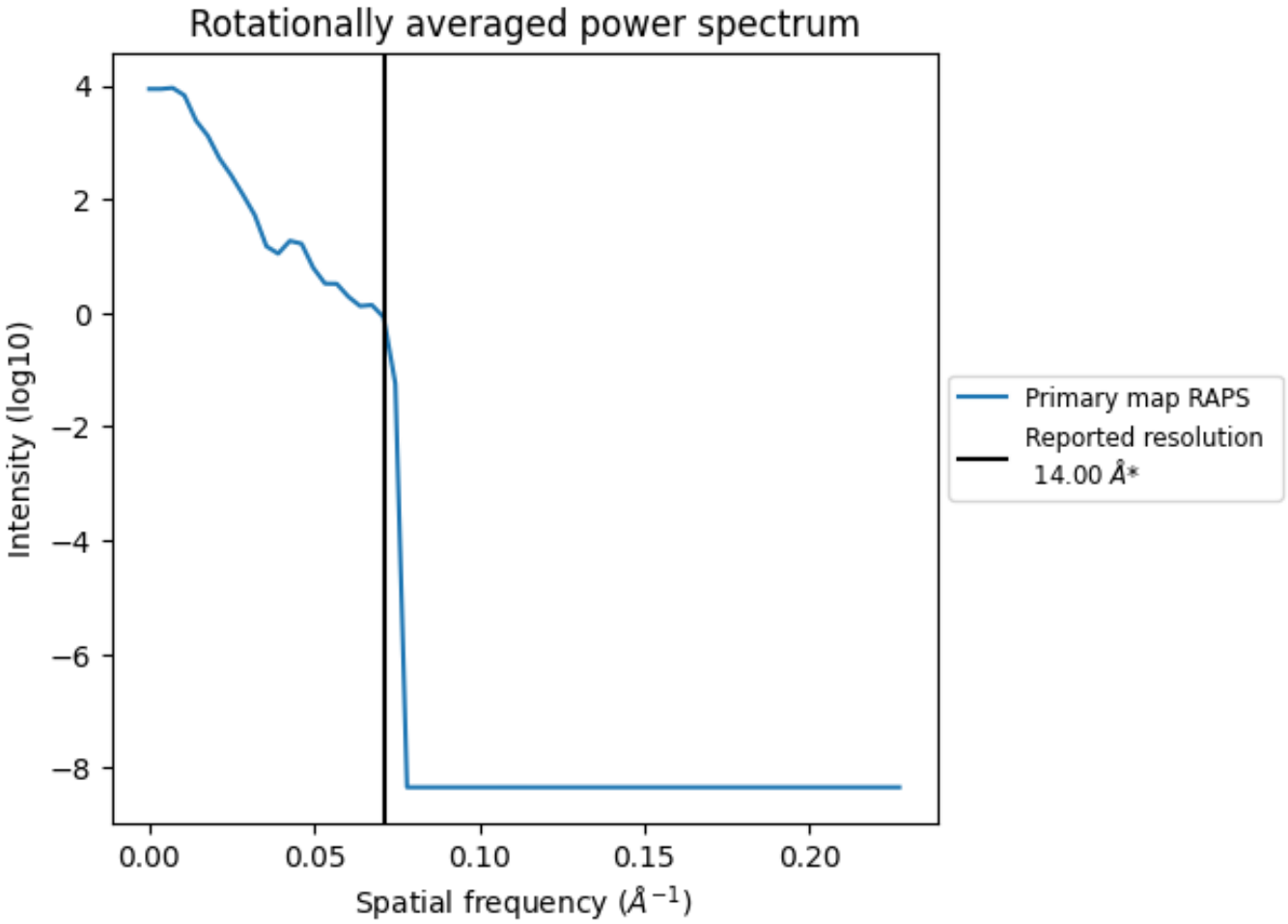
7.2 Volume estimate (i)



The volume at the recommended contour level is 1604 nm^3; this corresponds to an approximate mass of 1449 kDa.

The volume estimate graph shows how the enclosed volume varies with the contour level. The recommended contour level is shown as a vertical line and the intersection between the line and the curve gives the volume of the enclosed surface at the given level.

7.3 Rotationally averaged power spectrum (i)



*Reported resolution corresponds to spatial frequency of 0.071 Å^{-1}

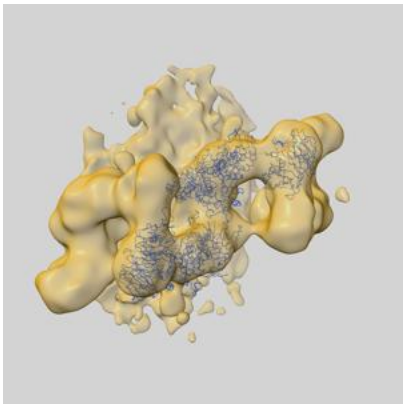
8 Fourier-Shell correlation

This section was not generated. No FSC curve or half-maps provided.

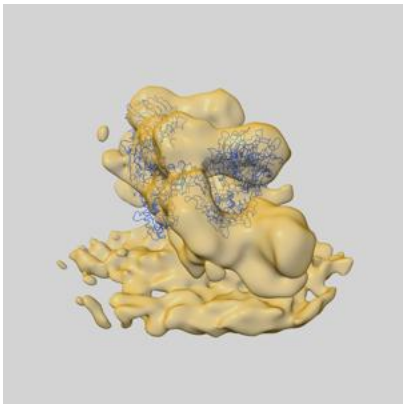
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-20825 and PDB model 6XR4. Per-residue inclusion information can be found in section 3 on page 13.

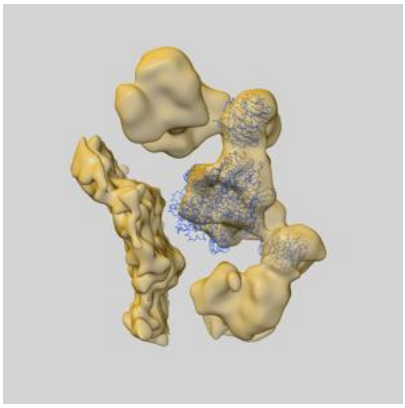
9.1 Map-model overlay



X



Y



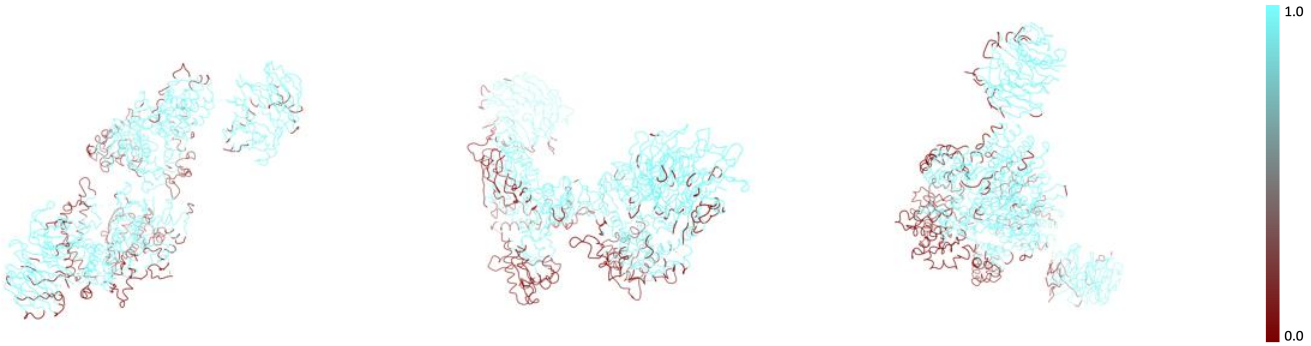
Z

The images above show the 3D surface view of the map at the recommended contour level 0.05 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

9.2 Q-score mapped to coordinate model (i)

This section was not generated.

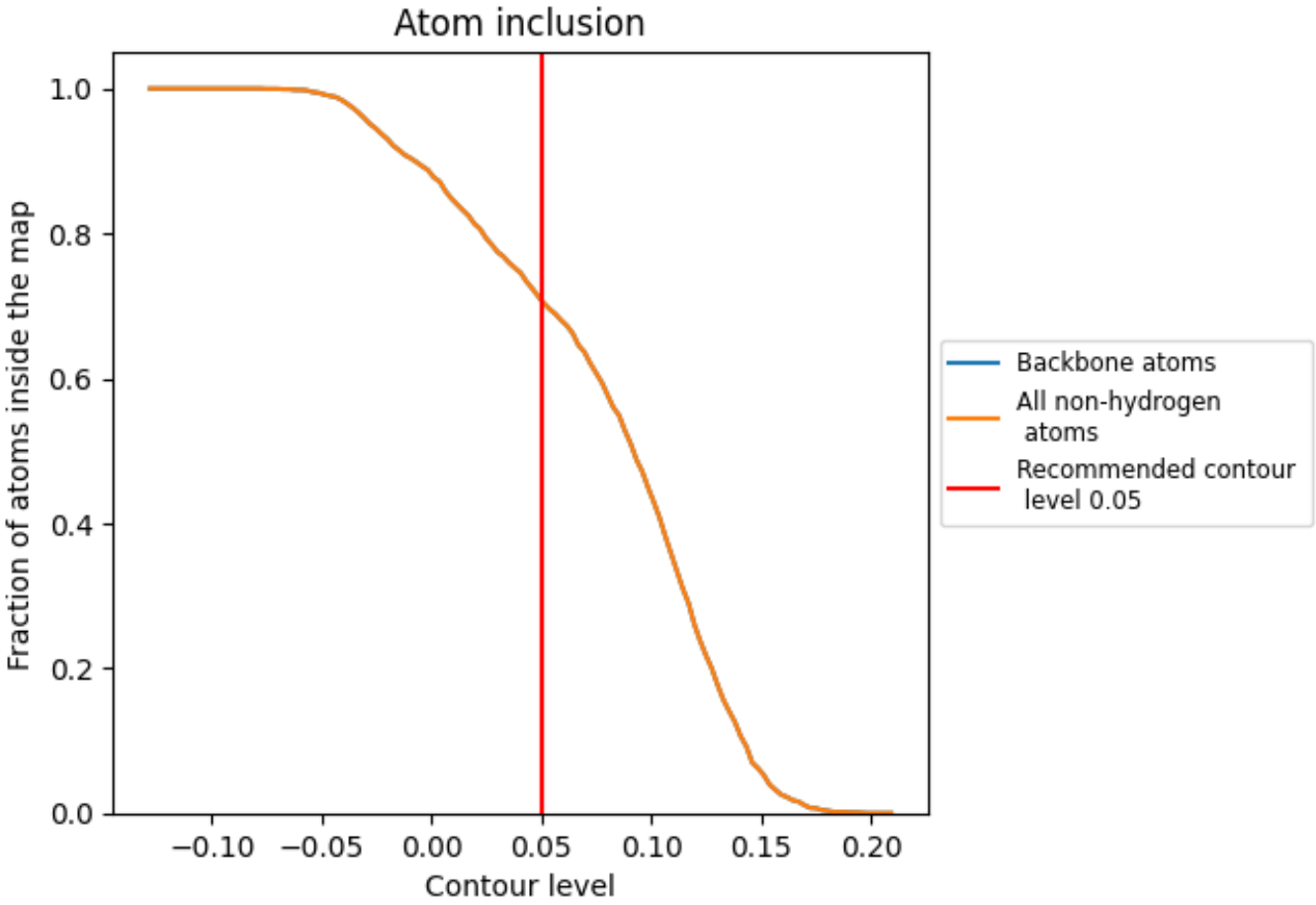
9.3 Atom inclusion mapped to coordinate model (i)



X Y Z

The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.05).

9.4 Atom inclusion (i)



At the recommended contour level, 71% of all backbone atoms, 71% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary (i)

The table lists the average atom inclusion at the recommended contour level (0.05) and Q-score for the entire model and for each chain.

Chain	Atom inclusion
All	0.7077
A	0.7673
B	0.6481