



Full wwPDB EM Validation Report ⓘ

Feb 4, 2026 – 12:22 pm GMT

PDB ID : 9TNZ / pdb_00009tnz
EMDB ID : EMD-56096
Title : SP100 CARD filament
Authors : Rabl, J.; Aird, E.; Corn, J.
Deposited on : 2025-12-16
Resolution : 3.52 Å (reported)
Based on initial model : .

This is a Full wwPDB EM Validation 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 ⓘ 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 ⓘ](#)) were used in the production of this report:

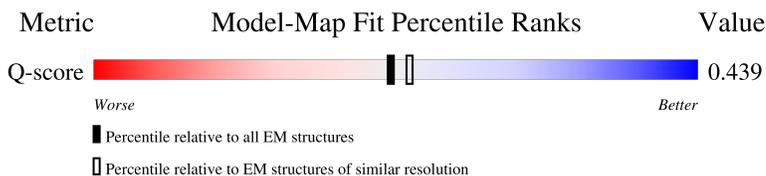
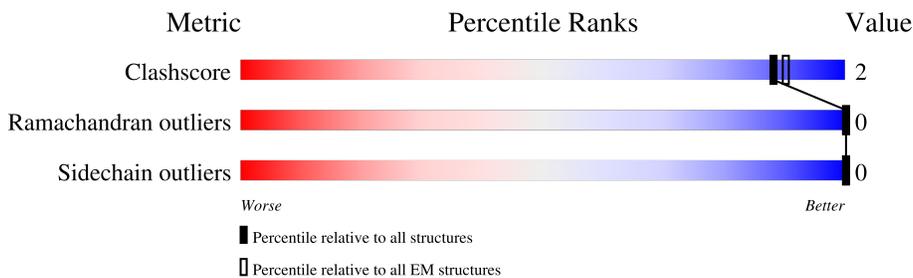
EMDB validation analysis : 0.0.1.dev129
MolProbity : 4-5-2 with Phenix2.0
Percentile statistics : 20231227.v01 (using entries in the PDB archive December 27th 2023)
EM percentile statistics : 202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.47

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 3.52 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.



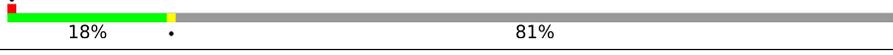
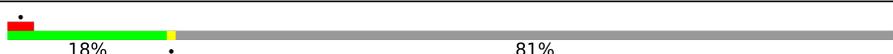
Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	210492	15764	-
Ramachandran outliers	207382	16835	-
Sidechain outliers	206894	16415	-
Q-score	-	25397	13017 (3.02 - 4.02)

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 $\leq 5\%$. 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	A	525	18% 81%
1	AA	525	18% 81%
1	B	525	18% 81%
1	C	525	18% 81%

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Mol	Chain	Length	Quality of chain
1	D	525	 18% 81%
1	E	525	 18% 81%
1	F	525	 18% 81%
1	G	525	 18% 81%
1	H	525	 18% 81%
1	I	525	 18% 81%
1	J	525	 18% 81%
1	K	525	 19% 18% 81%
1	L	525	 14% 18% 81%
1	M	525	 7% 18% 81%
1	N	525	 6% 18% 81%
1	O	525	 18% 81%
1	P	525	 18% 81%
1	Q	525	 9% 18% 81%
1	R	525	 16% 18% 81%
1	S	525	 14% 18% 81%
1	T	525	 6% 18% 81%
1	V	525	 18% 81%
1	W	525	 18% 81%
1	X	525	 18% 81%
1	Y	525	 18% 81%
1	Z	525	 12% 18% 81%

2 Entry composition [i](#)

There is only 1 type of molecule in this entry. The entry contains 21502 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 Maltose/maltodextrin-binding periplasmic protein,Nuclear autoantigen Sp-100.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	A	99	827	535	137	152	3	0	0
1	B	99	827	535	137	152	3	0	0
1	C	99	827	535	137	152	3	0	0
1	D	99	827	535	137	152	3	0	0
1	E	99	827	535	137	152	3	0	0
1	F	99	827	535	137	152	3	0	0
1	G	99	827	535	137	152	3	0	0
1	H	99	827	535	137	152	3	0	0
1	I	99	827	535	137	152	3	0	0
1	J	99	827	535	137	152	3	0	0
1	K	99	827	535	137	152	3	0	0
1	L	99	827	535	137	152	3	0	0
1	M	99	827	535	137	152	3	0	0
1	N	99	827	535	137	152	3	0	0
1	O	99	827	535	137	152	3	0	0
1	P	99	827	535	137	152	3	0	0

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Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	Q	99	827	535	137	152	3	0	0
1	R	99	827	535	137	152	3	0	0
1	S	99	827	535	137	152	3	0	0
1	T	99	827	535	137	152	3	0	0
1	V	99	827	535	137	152	3	0	0
1	W	99	827	535	137	152	3	0	0
1	X	99	827	535	137	152	3	0	0
1	Y	99	827	535	137	152	3	0	0
1	Z	99	827	535	137	152	3	0	0
1	AA	99	827	535	137	152	3	0	0

There are 1898 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-375	MET	-	initiating methionine	UNP P0AEX9
A	-374	LYS	-	expression tag	UNP P0AEX9
A	-373	SER	-	expression tag	UNP P0AEX9
A	-372	SER	-	expression tag	UNP P0AEX9
A	-371	HIS	-	expression tag	UNP P0AEX9
A	-370	HIS	-	expression tag	UNP P0AEX9
A	-369	HIS	-	expression tag	UNP P0AEX9
A	-368	HIS	-	expression tag	UNP P0AEX9
A	-367	HIS	-	expression tag	UNP P0AEX9
A	-366	HIS	-	expression tag	UNP P0AEX9
A	-365	GLY	-	expression tag	UNP P0AEX9
A	-364	SER	-	expression tag	UNP P0AEX9
A	-363	SER	-	expression tag	UNP P0AEX9
A	-362	MET	-	expression tag	UNP P0AEX9
A	-26	MET	-	linker	UNP P0AEX9
A	-25	SER	-	linker	UNP P0AEX9
A	-24	ALA	-	linker	UNP P0AEX9
A	-23	PHE	-	linker	UNP P0AEX9
A	-22	TRP	-	linker	UNP P0AEX9

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Chain	Residue	Modelled	Actual	Comment	Reference
A	-21	TYR	-	linker	UNP P0AEX9
A	-20	ALA	-	linker	UNP P0AEX9
A	-19	VAL	-	linker	UNP P0AEX9
A	-18	ARG	-	linker	UNP P0AEX9
A	-17	THR	-	linker	UNP P0AEX9
A	-16	ALA	-	linker	UNP P0AEX9
A	-15	VAL	-	linker	UNP P0AEX9
A	-14	ILE	-	linker	UNP P0AEX9
A	-13	ASN	-	linker	UNP P0AEX9
A	-12	ALA	-	linker	UNP P0AEX9
A	-11	ALA	-	linker	UNP P0AEX9
A	-10	SER	-	linker	UNP P0AEX9
A	-9	GLY	-	linker	UNP P0AEX9
A	-8	ARG	-	linker	UNP P0AEX9
A	-7	GLN	-	linker	UNP P0AEX9
A	-6	THR	-	linker	UNP P0AEX9
A	-5	VAL	-	linker	UNP P0AEX9
A	-4	ASP	-	linker	UNP P0AEX9
A	-3	GLU	-	linker	UNP P0AEX9
A	-2	ALA	-	linker	UNP P0AEX9
A	-1	LEU	-	linker	UNP P0AEX9
A	0	LYS	-	linker	UNP P0AEX9
A	1	ASP	-	linker	UNP P0AEX9
A	2	ALA	-	linker	UNP P0AEX9
A	3	GLN	-	linker	UNP P0AEX9
A	4	THR	-	linker	UNP P0AEX9
A	5	ASN	-	linker	UNP P0AEX9
A	6	SER	-	linker	UNP P0AEX9
A	7	SER	-	linker	UNP P0AEX9
A	8	SER	-	linker	UNP P0AEX9
A	9	ASN	-	linker	UNP P0AEX9
A	10	ASN	-	linker	UNP P0AEX9
A	11	ASN	-	linker	UNP P0AEX9
A	12	ASN	-	linker	UNP P0AEX9
A	13	ASN	-	linker	UNP P0AEX9
A	14	ASN	-	linker	UNP P0AEX9
A	15	ASN	-	linker	UNP P0AEX9
A	16	ASN	-	linker	UNP P0AEX9
A	17	ASN	-	linker	UNP P0AEX9
A	18	ASN	-	linker	UNP P0AEX9
A	19	LEU	-	linker	UNP P0AEX9
A	20	GLY	-	linker	UNP P0AEX9

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Chain	Residue	Modelled	Actual	Comment	Reference
A	21	ILE	-	linker	UNP P0AEX9
A	22	GLU	-	linker	UNP P0AEX9
A	23	GLU	-	linker	UNP P0AEX9
A	24	ASN	-	linker	UNP P0AEX9
A	25	LEU	-	linker	UNP P0AEX9
A	26	TYR	-	linker	UNP P0AEX9
A	27	PHE	-	linker	UNP P0AEX9
A	28	GLN	-	linker	UNP P0AEX9
A	29	SER	-	linker	UNP P0AEX9
A	30	ASN	-	linker	UNP P0AEX9
A	31	ALA	-	linker	UNP P0AEX9
A	32	THR	-	linker	UNP P0AEX9
B	-375	MET	-	initiating methionine	UNP P0AEX9
B	-374	LYS	-	expression tag	UNP P0AEX9
B	-373	SER	-	expression tag	UNP P0AEX9
B	-372	SER	-	expression tag	UNP P0AEX9
B	-371	HIS	-	expression tag	UNP P0AEX9
B	-370	HIS	-	expression tag	UNP P0AEX9
B	-369	HIS	-	expression tag	UNP P0AEX9
B	-368	HIS	-	expression tag	UNP P0AEX9
B	-367	HIS	-	expression tag	UNP P0AEX9
B	-366	HIS	-	expression tag	UNP P0AEX9
B	-365	GLY	-	expression tag	UNP P0AEX9
B	-364	SER	-	expression tag	UNP P0AEX9
B	-363	SER	-	expression tag	UNP P0AEX9
B	-362	MET	-	expression tag	UNP P0AEX9
B	-26	MET	-	linker	UNP P0AEX9
B	-25	SER	-	linker	UNP P0AEX9
B	-24	ALA	-	linker	UNP P0AEX9
B	-23	PHE	-	linker	UNP P0AEX9
B	-22	TRP	-	linker	UNP P0AEX9
B	-21	TYR	-	linker	UNP P0AEX9
B	-20	ALA	-	linker	UNP P0AEX9
B	-19	VAL	-	linker	UNP P0AEX9
B	-18	ARG	-	linker	UNP P0AEX9
B	-17	THR	-	linker	UNP P0AEX9
B	-16	ALA	-	linker	UNP P0AEX9
B	-15	VAL	-	linker	UNP P0AEX9
B	-14	ILE	-	linker	UNP P0AEX9
B	-13	ASN	-	linker	UNP P0AEX9
B	-12	ALA	-	linker	UNP P0AEX9
B	-11	ALA	-	linker	UNP P0AEX9

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Chain	Residue	Modelled	Actual	Comment	Reference
B	-10	SER	-	linker	UNP P0AEX9
B	-9	GLY	-	linker	UNP P0AEX9
B	-8	ARG	-	linker	UNP P0AEX9
B	-7	GLN	-	linker	UNP P0AEX9
B	-6	THR	-	linker	UNP P0AEX9
B	-5	VAL	-	linker	UNP P0AEX9
B	-4	ASP	-	linker	UNP P0AEX9
B	-3	GLU	-	linker	UNP P0AEX9
B	-2	ALA	-	linker	UNP P0AEX9
B	-1	LEU	-	linker	UNP P0AEX9
B	0	LYS	-	linker	UNP P0AEX9
B	1	ASP	-	linker	UNP P0AEX9
B	2	ALA	-	linker	UNP P0AEX9
B	3	GLN	-	linker	UNP P0AEX9
B	4	THR	-	linker	UNP P0AEX9
B	5	ASN	-	linker	UNP P0AEX9
B	6	SER	-	linker	UNP P0AEX9
B	7	SER	-	linker	UNP P0AEX9
B	8	SER	-	linker	UNP P0AEX9
B	9	ASN	-	linker	UNP P0AEX9
B	10	ASN	-	linker	UNP P0AEX9
B	11	ASN	-	linker	UNP P0AEX9
B	12	ASN	-	linker	UNP P0AEX9
B	13	ASN	-	linker	UNP P0AEX9
B	14	ASN	-	linker	UNP P0AEX9
B	15	ASN	-	linker	UNP P0AEX9
B	16	ASN	-	linker	UNP P0AEX9
B	17	ASN	-	linker	UNP P0AEX9
B	18	ASN	-	linker	UNP P0AEX9
B	19	LEU	-	linker	UNP P0AEX9
B	20	GLY	-	linker	UNP P0AEX9
B	21	ILE	-	linker	UNP P0AEX9
B	22	GLU	-	linker	UNP P0AEX9
B	23	GLU	-	linker	UNP P0AEX9
B	24	ASN	-	linker	UNP P0AEX9
B	25	LEU	-	linker	UNP P0AEX9
B	26	TYR	-	linker	UNP P0AEX9
B	27	PHE	-	linker	UNP P0AEX9
B	28	GLN	-	linker	UNP P0AEX9
B	29	SER	-	linker	UNP P0AEX9
B	30	ASN	-	linker	UNP P0AEX9
B	31	ALA	-	linker	UNP P0AEX9

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Chain	Residue	Modelled	Actual	Comment	Reference
B	32	THR	-	linker	UNP P0AEX9
C	-375	MET	-	initiating methionine	UNP P0AEX9
C	-374	LYS	-	expression tag	UNP P0AEX9
C	-373	SER	-	expression tag	UNP P0AEX9
C	-372	SER	-	expression tag	UNP P0AEX9
C	-371	HIS	-	expression tag	UNP P0AEX9
C	-370	HIS	-	expression tag	UNP P0AEX9
C	-369	HIS	-	expression tag	UNP P0AEX9
C	-368	HIS	-	expression tag	UNP P0AEX9
C	-367	HIS	-	expression tag	UNP P0AEX9
C	-366	HIS	-	expression tag	UNP P0AEX9
C	-365	GLY	-	expression tag	UNP P0AEX9
C	-364	SER	-	expression tag	UNP P0AEX9
C	-363	SER	-	expression tag	UNP P0AEX9
C	-362	MET	-	expression tag	UNP P0AEX9
C	-26	MET	-	linker	UNP P0AEX9
C	-25	SER	-	linker	UNP P0AEX9
C	-24	ALA	-	linker	UNP P0AEX9
C	-23	PHE	-	linker	UNP P0AEX9
C	-22	TRP	-	linker	UNP P0AEX9
C	-21	TYR	-	linker	UNP P0AEX9
C	-20	ALA	-	linker	UNP P0AEX9
C	-19	VAL	-	linker	UNP P0AEX9
C	-18	ARG	-	linker	UNP P0AEX9
C	-17	THR	-	linker	UNP P0AEX9
C	-16	ALA	-	linker	UNP P0AEX9
C	-15	VAL	-	linker	UNP P0AEX9
C	-14	ILE	-	linker	UNP P0AEX9
C	-13	ASN	-	linker	UNP P0AEX9
C	-12	ALA	-	linker	UNP P0AEX9
C	-11	ALA	-	linker	UNP P0AEX9
C	-10	SER	-	linker	UNP P0AEX9
C	-9	GLY	-	linker	UNP P0AEX9
C	-8	ARG	-	linker	UNP P0AEX9
C	-7	GLN	-	linker	UNP P0AEX9
C	-6	THR	-	linker	UNP P0AEX9
C	-5	VAL	-	linker	UNP P0AEX9
C	-4	ASP	-	linker	UNP P0AEX9
C	-3	GLU	-	linker	UNP P0AEX9
C	-2	ALA	-	linker	UNP P0AEX9
C	-1	LEU	-	linker	UNP P0AEX9
C	0	LYS	-	linker	UNP P0AEX9

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Chain	Residue	Modelled	Actual	Comment	Reference
C	1	ASP	-	linker	UNP P0AEX9
C	2	ALA	-	linker	UNP P0AEX9
C	3	GLN	-	linker	UNP P0AEX9
C	4	THR	-	linker	UNP P0AEX9
C	5	ASN	-	linker	UNP P0AEX9
C	6	SER	-	linker	UNP P0AEX9
C	7	SER	-	linker	UNP P0AEX9
C	8	SER	-	linker	UNP P0AEX9
C	9	ASN	-	linker	UNP P0AEX9
C	10	ASN	-	linker	UNP P0AEX9
C	11	ASN	-	linker	UNP P0AEX9
C	12	ASN	-	linker	UNP P0AEX9
C	13	ASN	-	linker	UNP P0AEX9
C	14	ASN	-	linker	UNP P0AEX9
C	15	ASN	-	linker	UNP P0AEX9
C	16	ASN	-	linker	UNP P0AEX9
C	17	ASN	-	linker	UNP P0AEX9
C	18	ASN	-	linker	UNP P0AEX9
C	19	LEU	-	linker	UNP P0AEX9
C	20	GLY	-	linker	UNP P0AEX9
C	21	ILE	-	linker	UNP P0AEX9
C	22	GLU	-	linker	UNP P0AEX9
C	23	GLU	-	linker	UNP P0AEX9
C	24	ASN	-	linker	UNP P0AEX9
C	25	LEU	-	linker	UNP P0AEX9
C	26	TYR	-	linker	UNP P0AEX9
C	27	PHE	-	linker	UNP P0AEX9
C	28	GLN	-	linker	UNP P0AEX9
C	29	SER	-	linker	UNP P0AEX9
C	30	ASN	-	linker	UNP P0AEX9
C	31	ALA	-	linker	UNP P0AEX9
C	32	THR	-	linker	UNP P0AEX9
D	-375	MET	-	initiating methionine	UNP P0AEX9
D	-374	LYS	-	expression tag	UNP P0AEX9
D	-373	SER	-	expression tag	UNP P0AEX9
D	-372	SER	-	expression tag	UNP P0AEX9
D	-371	HIS	-	expression tag	UNP P0AEX9
D	-370	HIS	-	expression tag	UNP P0AEX9
D	-369	HIS	-	expression tag	UNP P0AEX9
D	-368	HIS	-	expression tag	UNP P0AEX9
D	-367	HIS	-	expression tag	UNP P0AEX9
D	-366	HIS	-	expression tag	UNP P0AEX9

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Chain	Residue	Modelled	Actual	Comment	Reference
D	-365	GLY	-	expression tag	UNP P0AEX9
D	-364	SER	-	expression tag	UNP P0AEX9
D	-363	SER	-	expression tag	UNP P0AEX9
D	-362	MET	-	expression tag	UNP P0AEX9
D	-26	MET	-	linker	UNP P0AEX9
D	-25	SER	-	linker	UNP P0AEX9
D	-24	ALA	-	linker	UNP P0AEX9
D	-23	PHE	-	linker	UNP P0AEX9
D	-22	TRP	-	linker	UNP P0AEX9
D	-21	TYR	-	linker	UNP P0AEX9
D	-20	ALA	-	linker	UNP P0AEX9
D	-19	VAL	-	linker	UNP P0AEX9
D	-18	ARG	-	linker	UNP P0AEX9
D	-17	THR	-	linker	UNP P0AEX9
D	-16	ALA	-	linker	UNP P0AEX9
D	-15	VAL	-	linker	UNP P0AEX9
D	-14	ILE	-	linker	UNP P0AEX9
D	-13	ASN	-	linker	UNP P0AEX9
D	-12	ALA	-	linker	UNP P0AEX9
D	-11	ALA	-	linker	UNP P0AEX9
D	-10	SER	-	linker	UNP P0AEX9
D	-9	GLY	-	linker	UNP P0AEX9
D	-8	ARG	-	linker	UNP P0AEX9
D	-7	GLN	-	linker	UNP P0AEX9
D	-6	THR	-	linker	UNP P0AEX9
D	-5	VAL	-	linker	UNP P0AEX9
D	-4	ASP	-	linker	UNP P0AEX9
D	-3	GLU	-	linker	UNP P0AEX9
D	-2	ALA	-	linker	UNP P0AEX9
D	-1	LEU	-	linker	UNP P0AEX9
D	0	LYS	-	linker	UNP P0AEX9
D	1	ASP	-	linker	UNP P0AEX9
D	2	ALA	-	linker	UNP P0AEX9
D	3	GLN	-	linker	UNP P0AEX9
D	4	THR	-	linker	UNP P0AEX9
D	5	ASN	-	linker	UNP P0AEX9
D	6	SER	-	linker	UNP P0AEX9
D	7	SER	-	linker	UNP P0AEX9
D	8	SER	-	linker	UNP P0AEX9
D	9	ASN	-	linker	UNP P0AEX9
D	10	ASN	-	linker	UNP P0AEX9
D	11	ASN	-	linker	UNP P0AEX9

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Chain	Residue	Modelled	Actual	Comment	Reference
D	12	ASN	-	linker	UNP P0AEX9
D	13	ASN	-	linker	UNP P0AEX9
D	14	ASN	-	linker	UNP P0AEX9
D	15	ASN	-	linker	UNP P0AEX9
D	16	ASN	-	linker	UNP P0AEX9
D	17	ASN	-	linker	UNP P0AEX9
D	18	ASN	-	linker	UNP P0AEX9
D	19	LEU	-	linker	UNP P0AEX9
D	20	GLY	-	linker	UNP P0AEX9
D	21	ILE	-	linker	UNP P0AEX9
D	22	GLU	-	linker	UNP P0AEX9
D	23	GLU	-	linker	UNP P0AEX9
D	24	ASN	-	linker	UNP P0AEX9
D	25	LEU	-	linker	UNP P0AEX9
D	26	TYR	-	linker	UNP P0AEX9
D	27	PHE	-	linker	UNP P0AEX9
D	28	GLN	-	linker	UNP P0AEX9
D	29	SER	-	linker	UNP P0AEX9
D	30	ASN	-	linker	UNP P0AEX9
D	31	ALA	-	linker	UNP P0AEX9
D	32	THR	-	linker	UNP P0AEX9
E	-375	MET	-	initiating methionine	UNP P0AEX9
E	-374	LYS	-	expression tag	UNP P0AEX9
E	-373	SER	-	expression tag	UNP P0AEX9
E	-372	SER	-	expression tag	UNP P0AEX9
E	-371	HIS	-	expression tag	UNP P0AEX9
E	-370	HIS	-	expression tag	UNP P0AEX9
E	-369	HIS	-	expression tag	UNP P0AEX9
E	-368	HIS	-	expression tag	UNP P0AEX9
E	-367	HIS	-	expression tag	UNP P0AEX9
E	-366	HIS	-	expression tag	UNP P0AEX9
E	-365	GLY	-	expression tag	UNP P0AEX9
E	-364	SER	-	expression tag	UNP P0AEX9
E	-363	SER	-	expression tag	UNP P0AEX9
E	-362	MET	-	expression tag	UNP P0AEX9
E	-26	MET	-	linker	UNP P0AEX9
E	-25	SER	-	linker	UNP P0AEX9
E	-24	ALA	-	linker	UNP P0AEX9
E	-23	PHE	-	linker	UNP P0AEX9
E	-22	TRP	-	linker	UNP P0AEX9
E	-21	TYR	-	linker	UNP P0AEX9
E	-20	ALA	-	linker	UNP P0AEX9

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Chain	Residue	Modelled	Actual	Comment	Reference
E	-19	VAL	-	linker	UNP P0AEX9
E	-18	ARG	-	linker	UNP P0AEX9
E	-17	THR	-	linker	UNP P0AEX9
E	-16	ALA	-	linker	UNP P0AEX9
E	-15	VAL	-	linker	UNP P0AEX9
E	-14	ILE	-	linker	UNP P0AEX9
E	-13	ASN	-	linker	UNP P0AEX9
E	-12	ALA	-	linker	UNP P0AEX9
E	-11	ALA	-	linker	UNP P0AEX9
E	-10	SER	-	linker	UNP P0AEX9
E	-9	GLY	-	linker	UNP P0AEX9
E	-8	ARG	-	linker	UNP P0AEX9
E	-7	GLN	-	linker	UNP P0AEX9
E	-6	THR	-	linker	UNP P0AEX9
E	-5	VAL	-	linker	UNP P0AEX9
E	-4	ASP	-	linker	UNP P0AEX9
E	-3	GLU	-	linker	UNP P0AEX9
E	-2	ALA	-	linker	UNP P0AEX9
E	-1	LEU	-	linker	UNP P0AEX9
E	0	LYS	-	linker	UNP P0AEX9
E	1	ASP	-	linker	UNP P0AEX9
E	2	ALA	-	linker	UNP P0AEX9
E	3	GLN	-	linker	UNP P0AEX9
E	4	THR	-	linker	UNP P0AEX9
E	5	ASN	-	linker	UNP P0AEX9
E	6	SER	-	linker	UNP P0AEX9
E	7	SER	-	linker	UNP P0AEX9
E	8	SER	-	linker	UNP P0AEX9
E	9	ASN	-	linker	UNP P0AEX9
E	10	ASN	-	linker	UNP P0AEX9
E	11	ASN	-	linker	UNP P0AEX9
E	12	ASN	-	linker	UNP P0AEX9
E	13	ASN	-	linker	UNP P0AEX9
E	14	ASN	-	linker	UNP P0AEX9
E	15	ASN	-	linker	UNP P0AEX9
E	16	ASN	-	linker	UNP P0AEX9
E	17	ASN	-	linker	UNP P0AEX9
E	18	ASN	-	linker	UNP P0AEX9
E	19	LEU	-	linker	UNP P0AEX9
E	20	GLY	-	linker	UNP P0AEX9
E	21	ILE	-	linker	UNP P0AEX9
E	22	GLU	-	linker	UNP P0AEX9

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Chain	Residue	Modelled	Actual	Comment	Reference
E	23	GLU	-	linker	UNP P0AEX9
E	24	ASN	-	linker	UNP P0AEX9
E	25	LEU	-	linker	UNP P0AEX9
E	26	TYR	-	linker	UNP P0AEX9
E	27	PHE	-	linker	UNP P0AEX9
E	28	GLN	-	linker	UNP P0AEX9
E	29	SER	-	linker	UNP P0AEX9
E	30	ASN	-	linker	UNP P0AEX9
E	31	ALA	-	linker	UNP P0AEX9
E	32	THR	-	linker	UNP P0AEX9
F	-375	MET	-	initiating methionine	UNP P0AEX9
F	-374	LYS	-	expression tag	UNP P0AEX9
F	-373	SER	-	expression tag	UNP P0AEX9
F	-372	SER	-	expression tag	UNP P0AEX9
F	-371	HIS	-	expression tag	UNP P0AEX9
F	-370	HIS	-	expression tag	UNP P0AEX9
F	-369	HIS	-	expression tag	UNP P0AEX9
F	-368	HIS	-	expression tag	UNP P0AEX9
F	-367	HIS	-	expression tag	UNP P0AEX9
F	-366	HIS	-	expression tag	UNP P0AEX9
F	-365	GLY	-	expression tag	UNP P0AEX9
F	-364	SER	-	expression tag	UNP P0AEX9
F	-363	SER	-	expression tag	UNP P0AEX9
F	-362	MET	-	expression tag	UNP P0AEX9
F	-26	MET	-	linker	UNP P0AEX9
F	-25	SER	-	linker	UNP P0AEX9
F	-24	ALA	-	linker	UNP P0AEX9
F	-23	PHE	-	linker	UNP P0AEX9
F	-22	TRP	-	linker	UNP P0AEX9
F	-21	TYR	-	linker	UNP P0AEX9
F	-20	ALA	-	linker	UNP P0AEX9
F	-19	VAL	-	linker	UNP P0AEX9
F	-18	ARG	-	linker	UNP P0AEX9
F	-17	THR	-	linker	UNP P0AEX9
F	-16	ALA	-	linker	UNP P0AEX9
F	-15	VAL	-	linker	UNP P0AEX9
F	-14	ILE	-	linker	UNP P0AEX9
F	-13	ASN	-	linker	UNP P0AEX9
F	-12	ALA	-	linker	UNP P0AEX9
F	-11	ALA	-	linker	UNP P0AEX9
F	-10	SER	-	linker	UNP P0AEX9
F	-9	GLY	-	linker	UNP P0AEX9

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Chain	Residue	Modelled	Actual	Comment	Reference
F	-8	ARG	-	linker	UNP P0AEX9
F	-7	GLN	-	linker	UNP P0AEX9
F	-6	THR	-	linker	UNP P0AEX9
F	-5	VAL	-	linker	UNP P0AEX9
F	-4	ASP	-	linker	UNP P0AEX9
F	-3	GLU	-	linker	UNP P0AEX9
F	-2	ALA	-	linker	UNP P0AEX9
F	-1	LEU	-	linker	UNP P0AEX9
F	0	LYS	-	linker	UNP P0AEX9
F	1	ASP	-	linker	UNP P0AEX9
F	2	ALA	-	linker	UNP P0AEX9
F	3	GLN	-	linker	UNP P0AEX9
F	4	THR	-	linker	UNP P0AEX9
F	5	ASN	-	linker	UNP P0AEX9
F	6	SER	-	linker	UNP P0AEX9
F	7	SER	-	linker	UNP P0AEX9
F	8	SER	-	linker	UNP P0AEX9
F	9	ASN	-	linker	UNP P0AEX9
F	10	ASN	-	linker	UNP P0AEX9
F	11	ASN	-	linker	UNP P0AEX9
F	12	ASN	-	linker	UNP P0AEX9
F	13	ASN	-	linker	UNP P0AEX9
F	14	ASN	-	linker	UNP P0AEX9
F	15	ASN	-	linker	UNP P0AEX9
F	16	ASN	-	linker	UNP P0AEX9
F	17	ASN	-	linker	UNP P0AEX9
F	18	ASN	-	linker	UNP P0AEX9
F	19	LEU	-	linker	UNP P0AEX9
F	20	GLY	-	linker	UNP P0AEX9
F	21	ILE	-	linker	UNP P0AEX9
F	22	GLU	-	linker	UNP P0AEX9
F	23	GLU	-	linker	UNP P0AEX9
F	24	ASN	-	linker	UNP P0AEX9
F	25	LEU	-	linker	UNP P0AEX9
F	26	TYR	-	linker	UNP P0AEX9
F	27	PHE	-	linker	UNP P0AEX9
F	28	GLN	-	linker	UNP P0AEX9
F	29	SER	-	linker	UNP P0AEX9
F	30	ASN	-	linker	UNP P0AEX9
F	31	ALA	-	linker	UNP P0AEX9
F	32	THR	-	linker	UNP P0AEX9
G	-375	MET	-	initiating methionine	UNP P0AEX9

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Chain	Residue	Modelled	Actual	Comment	Reference
G	-374	LYS	-	expression tag	UNP P0AEX9
G	-373	SER	-	expression tag	UNP P0AEX9
G	-372	SER	-	expression tag	UNP P0AEX9
G	-371	HIS	-	expression tag	UNP P0AEX9
G	-370	HIS	-	expression tag	UNP P0AEX9
G	-369	HIS	-	expression tag	UNP P0AEX9
G	-368	HIS	-	expression tag	UNP P0AEX9
G	-367	HIS	-	expression tag	UNP P0AEX9
G	-366	HIS	-	expression tag	UNP P0AEX9
G	-365	GLY	-	expression tag	UNP P0AEX9
G	-364	SER	-	expression tag	UNP P0AEX9
G	-363	SER	-	expression tag	UNP P0AEX9
G	-362	MET	-	expression tag	UNP P0AEX9
G	-26	MET	-	linker	UNP P0AEX9
G	-25	SER	-	linker	UNP P0AEX9
G	-24	ALA	-	linker	UNP P0AEX9
G	-23	PHE	-	linker	UNP P0AEX9
G	-22	TRP	-	linker	UNP P0AEX9
G	-21	TYR	-	linker	UNP P0AEX9
G	-20	ALA	-	linker	UNP P0AEX9
G	-19	VAL	-	linker	UNP P0AEX9
G	-18	ARG	-	linker	UNP P0AEX9
G	-17	THR	-	linker	UNP P0AEX9
G	-16	ALA	-	linker	UNP P0AEX9
G	-15	VAL	-	linker	UNP P0AEX9
G	-14	ILE	-	linker	UNP P0AEX9
G	-13	ASN	-	linker	UNP P0AEX9
G	-12	ALA	-	linker	UNP P0AEX9
G	-11	ALA	-	linker	UNP P0AEX9
G	-10	SER	-	linker	UNP P0AEX9
G	-9	GLY	-	linker	UNP P0AEX9
G	-8	ARG	-	linker	UNP P0AEX9
G	-7	GLN	-	linker	UNP P0AEX9
G	-6	THR	-	linker	UNP P0AEX9
G	-5	VAL	-	linker	UNP P0AEX9
G	-4	ASP	-	linker	UNP P0AEX9
G	-3	GLU	-	linker	UNP P0AEX9
G	-2	ALA	-	linker	UNP P0AEX9
G	-1	LEU	-	linker	UNP P0AEX9
G	0	LYS	-	linker	UNP P0AEX9
G	1	ASP	-	linker	UNP P0AEX9
G	2	ALA	-	linker	UNP P0AEX9

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Chain	Residue	Modelled	Actual	Comment	Reference
G	3	GLN	-	linker	UNP P0AEX9
G	4	THR	-	linker	UNP P0AEX9
G	5	ASN	-	linker	UNP P0AEX9
G	6	SER	-	linker	UNP P0AEX9
G	7	SER	-	linker	UNP P0AEX9
G	8	SER	-	linker	UNP P0AEX9
G	9	ASN	-	linker	UNP P0AEX9
G	10	ASN	-	linker	UNP P0AEX9
G	11	ASN	-	linker	UNP P0AEX9
G	12	ASN	-	linker	UNP P0AEX9
G	13	ASN	-	linker	UNP P0AEX9
G	14	ASN	-	linker	UNP P0AEX9
G	15	ASN	-	linker	UNP P0AEX9
G	16	ASN	-	linker	UNP P0AEX9
G	17	ASN	-	linker	UNP P0AEX9
G	18	ASN	-	linker	UNP P0AEX9
G	19	LEU	-	linker	UNP P0AEX9
G	20	GLY	-	linker	UNP P0AEX9
G	21	ILE	-	linker	UNP P0AEX9
G	22	GLU	-	linker	UNP P0AEX9
G	23	GLU	-	linker	UNP P0AEX9
G	24	ASN	-	linker	UNP P0AEX9
G	25	LEU	-	linker	UNP P0AEX9
G	26	TYR	-	linker	UNP P0AEX9
G	27	PHE	-	linker	UNP P0AEX9
G	28	GLN	-	linker	UNP P0AEX9
G	29	SER	-	linker	UNP P0AEX9
G	30	ASN	-	linker	UNP P0AEX9
G	31	ALA	-	linker	UNP P0AEX9
G	32	THR	-	linker	UNP P0AEX9
H	-375	MET	-	initiating methionine	UNP P0AEX9
H	-374	LYS	-	expression tag	UNP P0AEX9
H	-373	SER	-	expression tag	UNP P0AEX9
H	-372	SER	-	expression tag	UNP P0AEX9
H	-371	HIS	-	expression tag	UNP P0AEX9
H	-370	HIS	-	expression tag	UNP P0AEX9
H	-369	HIS	-	expression tag	UNP P0AEX9
H	-368	HIS	-	expression tag	UNP P0AEX9
H	-367	HIS	-	expression tag	UNP P0AEX9
H	-366	HIS	-	expression tag	UNP P0AEX9
H	-365	GLY	-	expression tag	UNP P0AEX9
H	-364	SER	-	expression tag	UNP P0AEX9

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Chain	Residue	Modelled	Actual	Comment	Reference
H	-363	SER	-	expression tag	UNP P0AEX9
H	-362	MET	-	expression tag	UNP P0AEX9
H	-26	MET	-	linker	UNP P0AEX9
H	-25	SER	-	linker	UNP P0AEX9
H	-24	ALA	-	linker	UNP P0AEX9
H	-23	PHE	-	linker	UNP P0AEX9
H	-22	TRP	-	linker	UNP P0AEX9
H	-21	TYR	-	linker	UNP P0AEX9
H	-20	ALA	-	linker	UNP P0AEX9
H	-19	VAL	-	linker	UNP P0AEX9
H	-18	ARG	-	linker	UNP P0AEX9
H	-17	THR	-	linker	UNP P0AEX9
H	-16	ALA	-	linker	UNP P0AEX9
H	-15	VAL	-	linker	UNP P0AEX9
H	-14	ILE	-	linker	UNP P0AEX9
H	-13	ASN	-	linker	UNP P0AEX9
H	-12	ALA	-	linker	UNP P0AEX9
H	-11	ALA	-	linker	UNP P0AEX9
H	-10	SER	-	linker	UNP P0AEX9
H	-9	GLY	-	linker	UNP P0AEX9
H	-8	ARG	-	linker	UNP P0AEX9
H	-7	GLN	-	linker	UNP P0AEX9
H	-6	THR	-	linker	UNP P0AEX9
H	-5	VAL	-	linker	UNP P0AEX9
H	-4	ASP	-	linker	UNP P0AEX9
H	-3	GLU	-	linker	UNP P0AEX9
H	-2	ALA	-	linker	UNP P0AEX9
H	-1	LEU	-	linker	UNP P0AEX9
H	0	LYS	-	linker	UNP P0AEX9
H	1	ASP	-	linker	UNP P0AEX9
H	2	ALA	-	linker	UNP P0AEX9
H	3	GLN	-	linker	UNP P0AEX9
H	4	THR	-	linker	UNP P0AEX9
H	5	ASN	-	linker	UNP P0AEX9
H	6	SER	-	linker	UNP P0AEX9
H	7	SER	-	linker	UNP P0AEX9
H	8	SER	-	linker	UNP P0AEX9
H	9	ASN	-	linker	UNP P0AEX9
H	10	ASN	-	linker	UNP P0AEX9
H	11	ASN	-	linker	UNP P0AEX9
H	12	ASN	-	linker	UNP P0AEX9
H	13	ASN	-	linker	UNP P0AEX9

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Chain	Residue	Modelled	Actual	Comment	Reference
H	14	ASN	-	linker	UNP P0AEX9
H	15	ASN	-	linker	UNP P0AEX9
H	16	ASN	-	linker	UNP P0AEX9
H	17	ASN	-	linker	UNP P0AEX9
H	18	ASN	-	linker	UNP P0AEX9
H	19	LEU	-	linker	UNP P0AEX9
H	20	GLY	-	linker	UNP P0AEX9
H	21	ILE	-	linker	UNP P0AEX9
H	22	GLU	-	linker	UNP P0AEX9
H	23	GLU	-	linker	UNP P0AEX9
H	24	ASN	-	linker	UNP P0AEX9
H	25	LEU	-	linker	UNP P0AEX9
H	26	TYR	-	linker	UNP P0AEX9
H	27	PHE	-	linker	UNP P0AEX9
H	28	GLN	-	linker	UNP P0AEX9
H	29	SER	-	linker	UNP P0AEX9
H	30	ASN	-	linker	UNP P0AEX9
H	31	ALA	-	linker	UNP P0AEX9
H	32	THR	-	linker	UNP P0AEX9
I	-375	MET	-	initiating methionine	UNP P0AEX9
I	-374	LYS	-	expression tag	UNP P0AEX9
I	-373	SER	-	expression tag	UNP P0AEX9
I	-372	SER	-	expression tag	UNP P0AEX9
I	-371	HIS	-	expression tag	UNP P0AEX9
I	-370	HIS	-	expression tag	UNP P0AEX9
I	-369	HIS	-	expression tag	UNP P0AEX9
I	-368	HIS	-	expression tag	UNP P0AEX9
I	-367	HIS	-	expression tag	UNP P0AEX9
I	-366	HIS	-	expression tag	UNP P0AEX9
I	-365	GLY	-	expression tag	UNP P0AEX9
I	-364	SER	-	expression tag	UNP P0AEX9
I	-363	SER	-	expression tag	UNP P0AEX9
I	-362	MET	-	expression tag	UNP P0AEX9
I	-26	MET	-	linker	UNP P0AEX9
I	-25	SER	-	linker	UNP P0AEX9
I	-24	ALA	-	linker	UNP P0AEX9
I	-23	PHE	-	linker	UNP P0AEX9
I	-22	TRP	-	linker	UNP P0AEX9
I	-21	TYR	-	linker	UNP P0AEX9
I	-20	ALA	-	linker	UNP P0AEX9
I	-19	VAL	-	linker	UNP P0AEX9
I	-18	ARG	-	linker	UNP P0AEX9

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Chain	Residue	Modelled	Actual	Comment	Reference
I	-17	THR	-	linker	UNP P0AEX9
I	-16	ALA	-	linker	UNP P0AEX9
I	-15	VAL	-	linker	UNP P0AEX9
I	-14	ILE	-	linker	UNP P0AEX9
I	-13	ASN	-	linker	UNP P0AEX9
I	-12	ALA	-	linker	UNP P0AEX9
I	-11	ALA	-	linker	UNP P0AEX9
I	-10	SER	-	linker	UNP P0AEX9
I	-9	GLY	-	linker	UNP P0AEX9
I	-8	ARG	-	linker	UNP P0AEX9
I	-7	GLN	-	linker	UNP P0AEX9
I	-6	THR	-	linker	UNP P0AEX9
I	-5	VAL	-	linker	UNP P0AEX9
I	-4	ASP	-	linker	UNP P0AEX9
I	-3	GLU	-	linker	UNP P0AEX9
I	-2	ALA	-	linker	UNP P0AEX9
I	-1	LEU	-	linker	UNP P0AEX9
I	0	LYS	-	linker	UNP P0AEX9
I	1	ASP	-	linker	UNP P0AEX9
I	2	ALA	-	linker	UNP P0AEX9
I	3	GLN	-	linker	UNP P0AEX9
I	4	THR	-	linker	UNP P0AEX9
I	5	ASN	-	linker	UNP P0AEX9
I	6	SER	-	linker	UNP P0AEX9
I	7	SER	-	linker	UNP P0AEX9
I	8	SER	-	linker	UNP P0AEX9
I	9	ASN	-	linker	UNP P0AEX9
I	10	ASN	-	linker	UNP P0AEX9
I	11	ASN	-	linker	UNP P0AEX9
I	12	ASN	-	linker	UNP P0AEX9
I	13	ASN	-	linker	UNP P0AEX9
I	14	ASN	-	linker	UNP P0AEX9
I	15	ASN	-	linker	UNP P0AEX9
I	16	ASN	-	linker	UNP P0AEX9
I	17	ASN	-	linker	UNP P0AEX9
I	18	ASN	-	linker	UNP P0AEX9
I	19	LEU	-	linker	UNP P0AEX9
I	20	GLY	-	linker	UNP P0AEX9
I	21	ILE	-	linker	UNP P0AEX9
I	22	GLU	-	linker	UNP P0AEX9
I	23	GLU	-	linker	UNP P0AEX9
I	24	ASN	-	linker	UNP P0AEX9

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Chain	Residue	Modelled	Actual	Comment	Reference
I	25	LEU	-	linker	UNP P0AEX9
I	26	TYR	-	linker	UNP P0AEX9
I	27	PHE	-	linker	UNP P0AEX9
I	28	GLN	-	linker	UNP P0AEX9
I	29	SER	-	linker	UNP P0AEX9
I	30	ASN	-	linker	UNP P0AEX9
I	31	ALA	-	linker	UNP P0AEX9
I	32	THR	-	linker	UNP P0AEX9
J	-375	MET	-	initiating methionine	UNP P0AEX9
J	-374	LYS	-	expression tag	UNP P0AEX9
J	-373	SER	-	expression tag	UNP P0AEX9
J	-372	SER	-	expression tag	UNP P0AEX9
J	-371	HIS	-	expression tag	UNP P0AEX9
J	-370	HIS	-	expression tag	UNP P0AEX9
J	-369	HIS	-	expression tag	UNP P0AEX9
J	-368	HIS	-	expression tag	UNP P0AEX9
J	-367	HIS	-	expression tag	UNP P0AEX9
J	-366	HIS	-	expression tag	UNP P0AEX9
J	-365	GLY	-	expression tag	UNP P0AEX9
J	-364	SER	-	expression tag	UNP P0AEX9
J	-363	SER	-	expression tag	UNP P0AEX9
J	-362	MET	-	expression tag	UNP P0AEX9
J	-26	MET	-	linker	UNP P0AEX9
J	-25	SER	-	linker	UNP P0AEX9
J	-24	ALA	-	linker	UNP P0AEX9
J	-23	PHE	-	linker	UNP P0AEX9
J	-22	TRP	-	linker	UNP P0AEX9
J	-21	TYR	-	linker	UNP P0AEX9
J	-20	ALA	-	linker	UNP P0AEX9
J	-19	VAL	-	linker	UNP P0AEX9
J	-18	ARG	-	linker	UNP P0AEX9
J	-17	THR	-	linker	UNP P0AEX9
J	-16	ALA	-	linker	UNP P0AEX9
J	-15	VAL	-	linker	UNP P0AEX9
J	-14	ILE	-	linker	UNP P0AEX9
J	-13	ASN	-	linker	UNP P0AEX9
J	-12	ALA	-	linker	UNP P0AEX9
J	-11	ALA	-	linker	UNP P0AEX9
J	-10	SER	-	linker	UNP P0AEX9
J	-9	GLY	-	linker	UNP P0AEX9
J	-8	ARG	-	linker	UNP P0AEX9
J	-7	GLN	-	linker	UNP P0AEX9

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Chain	Residue	Modelled	Actual	Comment	Reference
J	-6	THR	-	linker	UNP P0AEX9
J	-5	VAL	-	linker	UNP P0AEX9
J	-4	ASP	-	linker	UNP P0AEX9
J	-3	GLU	-	linker	UNP P0AEX9
J	-2	ALA	-	linker	UNP P0AEX9
J	-1	LEU	-	linker	UNP P0AEX9
J	0	LYS	-	linker	UNP P0AEX9
J	1	ASP	-	linker	UNP P0AEX9
J	2	ALA	-	linker	UNP P0AEX9
J	3	GLN	-	linker	UNP P0AEX9
J	4	THR	-	linker	UNP P0AEX9
J	5	ASN	-	linker	UNP P0AEX9
J	6	SER	-	linker	UNP P0AEX9
J	7	SER	-	linker	UNP P0AEX9
J	8	SER	-	linker	UNP P0AEX9
J	9	ASN	-	linker	UNP P0AEX9
J	10	ASN	-	linker	UNP P0AEX9
J	11	ASN	-	linker	UNP P0AEX9
J	12	ASN	-	linker	UNP P0AEX9
J	13	ASN	-	linker	UNP P0AEX9
J	14	ASN	-	linker	UNP P0AEX9
J	15	ASN	-	linker	UNP P0AEX9
J	16	ASN	-	linker	UNP P0AEX9
J	17	ASN	-	linker	UNP P0AEX9
J	18	ASN	-	linker	UNP P0AEX9
J	19	LEU	-	linker	UNP P0AEX9
J	20	GLY	-	linker	UNP P0AEX9
J	21	ILE	-	linker	UNP P0AEX9
J	22	GLU	-	linker	UNP P0AEX9
J	23	GLU	-	linker	UNP P0AEX9
J	24	ASN	-	linker	UNP P0AEX9
J	25	LEU	-	linker	UNP P0AEX9
J	26	TYR	-	linker	UNP P0AEX9
J	27	PHE	-	linker	UNP P0AEX9
J	28	GLN	-	linker	UNP P0AEX9
J	29	SER	-	linker	UNP P0AEX9
J	30	ASN	-	linker	UNP P0AEX9
J	31	ALA	-	linker	UNP P0AEX9
J	32	THR	-	linker	UNP P0AEX9
K	-375	MET	-	initiating methionine	UNP P0AEX9
K	-374	LYS	-	expression tag	UNP P0AEX9
K	-373	SER	-	expression tag	UNP P0AEX9

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Chain	Residue	Modelled	Actual	Comment	Reference
K	-372	SER	-	expression tag	UNP P0AEX9
K	-371	HIS	-	expression tag	UNP P0AEX9
K	-370	HIS	-	expression tag	UNP P0AEX9
K	-369	HIS	-	expression tag	UNP P0AEX9
K	-368	HIS	-	expression tag	UNP P0AEX9
K	-367	HIS	-	expression tag	UNP P0AEX9
K	-366	HIS	-	expression tag	UNP P0AEX9
K	-365	GLY	-	expression tag	UNP P0AEX9
K	-364	SER	-	expression tag	UNP P0AEX9
K	-363	SER	-	expression tag	UNP P0AEX9
K	-362	MET	-	expression tag	UNP P0AEX9
K	-26	MET	-	linker	UNP P0AEX9
K	-25	SER	-	linker	UNP P0AEX9
K	-24	ALA	-	linker	UNP P0AEX9
K	-23	PHE	-	linker	UNP P0AEX9
K	-22	TRP	-	linker	UNP P0AEX9
K	-21	TYR	-	linker	UNP P0AEX9
K	-20	ALA	-	linker	UNP P0AEX9
K	-19	VAL	-	linker	UNP P0AEX9
K	-18	ARG	-	linker	UNP P0AEX9
K	-17	THR	-	linker	UNP P0AEX9
K	-16	ALA	-	linker	UNP P0AEX9
K	-15	VAL	-	linker	UNP P0AEX9
K	-14	ILE	-	linker	UNP P0AEX9
K	-13	ASN	-	linker	UNP P0AEX9
K	-12	ALA	-	linker	UNP P0AEX9
K	-11	ALA	-	linker	UNP P0AEX9
K	-10	SER	-	linker	UNP P0AEX9
K	-9	GLY	-	linker	UNP P0AEX9
K	-8	ARG	-	linker	UNP P0AEX9
K	-7	GLN	-	linker	UNP P0AEX9
K	-6	THR	-	linker	UNP P0AEX9
K	-5	VAL	-	linker	UNP P0AEX9
K	-4	ASP	-	linker	UNP P0AEX9
K	-3	GLU	-	linker	UNP P0AEX9
K	-2	ALA	-	linker	UNP P0AEX9
K	-1	LEU	-	linker	UNP P0AEX9
K	0	LYS	-	linker	UNP P0AEX9
K	1	ASP	-	linker	UNP P0AEX9
K	2	ALA	-	linker	UNP P0AEX9
K	3	GLN	-	linker	UNP P0AEX9
K	4	THR	-	linker	UNP P0AEX9

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Chain	Residue	Modelled	Actual	Comment	Reference
K	5	ASN	-	linker	UNP P0AEX9
K	6	SER	-	linker	UNP P0AEX9
K	7	SER	-	linker	UNP P0AEX9
K	8	SER	-	linker	UNP P0AEX9
K	9	ASN	-	linker	UNP P0AEX9
K	10	ASN	-	linker	UNP P0AEX9
K	11	ASN	-	linker	UNP P0AEX9
K	12	ASN	-	linker	UNP P0AEX9
K	13	ASN	-	linker	UNP P0AEX9
K	14	ASN	-	linker	UNP P0AEX9
K	15	ASN	-	linker	UNP P0AEX9
K	16	ASN	-	linker	UNP P0AEX9
K	17	ASN	-	linker	UNP P0AEX9
K	18	ASN	-	linker	UNP P0AEX9
K	19	LEU	-	linker	UNP P0AEX9
K	20	GLY	-	linker	UNP P0AEX9
K	21	ILE	-	linker	UNP P0AEX9
K	22	GLU	-	linker	UNP P0AEX9
K	23	GLU	-	linker	UNP P0AEX9
K	24	ASN	-	linker	UNP P0AEX9
K	25	LEU	-	linker	UNP P0AEX9
K	26	TYR	-	linker	UNP P0AEX9
K	27	PHE	-	linker	UNP P0AEX9
K	28	GLN	-	linker	UNP P0AEX9
K	29	SER	-	linker	UNP P0AEX9
K	30	ASN	-	linker	UNP P0AEX9
K	31	ALA	-	linker	UNP P0AEX9
K	32	THR	-	linker	UNP P0AEX9
L	-375	MET	-	initiating methionine	UNP P0AEX9
L	-374	LYS	-	expression tag	UNP P0AEX9
L	-373	SER	-	expression tag	UNP P0AEX9
L	-372	SER	-	expression tag	UNP P0AEX9
L	-371	HIS	-	expression tag	UNP P0AEX9
L	-370	HIS	-	expression tag	UNP P0AEX9
L	-369	HIS	-	expression tag	UNP P0AEX9
L	-368	HIS	-	expression tag	UNP P0AEX9
L	-367	HIS	-	expression tag	UNP P0AEX9
L	-366	HIS	-	expression tag	UNP P0AEX9
L	-365	GLY	-	expression tag	UNP P0AEX9
L	-364	SER	-	expression tag	UNP P0AEX9
L	-363	SER	-	expression tag	UNP P0AEX9
L	-362	MET	-	expression tag	UNP P0AEX9

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Chain	Residue	Modelled	Actual	Comment	Reference
L	-26	MET	-	linker	UNP P0AEX9
L	-25	SER	-	linker	UNP P0AEX9
L	-24	ALA	-	linker	UNP P0AEX9
L	-23	PHE	-	linker	UNP P0AEX9
L	-22	TRP	-	linker	UNP P0AEX9
L	-21	TYR	-	linker	UNP P0AEX9
L	-20	ALA	-	linker	UNP P0AEX9
L	-19	VAL	-	linker	UNP P0AEX9
L	-18	ARG	-	linker	UNP P0AEX9
L	-17	THR	-	linker	UNP P0AEX9
L	-16	ALA	-	linker	UNP P0AEX9
L	-15	VAL	-	linker	UNP P0AEX9
L	-14	ILE	-	linker	UNP P0AEX9
L	-13	ASN	-	linker	UNP P0AEX9
L	-12	ALA	-	linker	UNP P0AEX9
L	-11	ALA	-	linker	UNP P0AEX9
L	-10	SER	-	linker	UNP P0AEX9
L	-9	GLY	-	linker	UNP P0AEX9
L	-8	ARG	-	linker	UNP P0AEX9
L	-7	GLN	-	linker	UNP P0AEX9
L	-6	THR	-	linker	UNP P0AEX9
L	-5	VAL	-	linker	UNP P0AEX9
L	-4	ASP	-	linker	UNP P0AEX9
L	-3	GLU	-	linker	UNP P0AEX9
L	-2	ALA	-	linker	UNP P0AEX9
L	-1	LEU	-	linker	UNP P0AEX9
L	0	LYS	-	linker	UNP P0AEX9
L	1	ASP	-	linker	UNP P0AEX9
L	2	ALA	-	linker	UNP P0AEX9
L	3	GLN	-	linker	UNP P0AEX9
L	4	THR	-	linker	UNP P0AEX9
L	5	ASN	-	linker	UNP P0AEX9
L	6	SER	-	linker	UNP P0AEX9
L	7	SER	-	linker	UNP P0AEX9
L	8	SER	-	linker	UNP P0AEX9
L	9	ASN	-	linker	UNP P0AEX9
L	10	ASN	-	linker	UNP P0AEX9
L	11	ASN	-	linker	UNP P0AEX9
L	12	ASN	-	linker	UNP P0AEX9
L	13	ASN	-	linker	UNP P0AEX9
L	14	ASN	-	linker	UNP P0AEX9
L	15	ASN	-	linker	UNP P0AEX9

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Chain	Residue	Modelled	Actual	Comment	Reference
L	16	ASN	-	linker	UNP P0AEX9
L	17	ASN	-	linker	UNP P0AEX9
L	18	ASN	-	linker	UNP P0AEX9
L	19	LEU	-	linker	UNP P0AEX9
L	20	GLY	-	linker	UNP P0AEX9
L	21	ILE	-	linker	UNP P0AEX9
L	22	GLU	-	linker	UNP P0AEX9
L	23	GLU	-	linker	UNP P0AEX9
L	24	ASN	-	linker	UNP P0AEX9
L	25	LEU	-	linker	UNP P0AEX9
L	26	TYR	-	linker	UNP P0AEX9
L	27	PHE	-	linker	UNP P0AEX9
L	28	GLN	-	linker	UNP P0AEX9
L	29	SER	-	linker	UNP P0AEX9
L	30	ASN	-	linker	UNP P0AEX9
L	31	ALA	-	linker	UNP P0AEX9
L	32	THR	-	linker	UNP P0AEX9
M	-375	MET	-	initiating methionine	UNP P0AEX9
M	-374	LYS	-	expression tag	UNP P0AEX9
M	-373	SER	-	expression tag	UNP P0AEX9
M	-372	SER	-	expression tag	UNP P0AEX9
M	-371	HIS	-	expression tag	UNP P0AEX9
M	-370	HIS	-	expression tag	UNP P0AEX9
M	-369	HIS	-	expression tag	UNP P0AEX9
M	-368	HIS	-	expression tag	UNP P0AEX9
M	-367	HIS	-	expression tag	UNP P0AEX9
M	-366	HIS	-	expression tag	UNP P0AEX9
M	-365	GLY	-	expression tag	UNP P0AEX9
M	-364	SER	-	expression tag	UNP P0AEX9
M	-363	SER	-	expression tag	UNP P0AEX9
M	-362	MET	-	expression tag	UNP P0AEX9
M	-26	MET	-	linker	UNP P0AEX9
M	-25	SER	-	linker	UNP P0AEX9
M	-24	ALA	-	linker	UNP P0AEX9
M	-23	PHE	-	linker	UNP P0AEX9
M	-22	TRP	-	linker	UNP P0AEX9
M	-21	TYR	-	linker	UNP P0AEX9
M	-20	ALA	-	linker	UNP P0AEX9
M	-19	VAL	-	linker	UNP P0AEX9
M	-18	ARG	-	linker	UNP P0AEX9
M	-17	THR	-	linker	UNP P0AEX9
M	-16	ALA	-	linker	UNP P0AEX9

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Chain	Residue	Modelled	Actual	Comment	Reference
M	-15	VAL	-	linker	UNP P0AEX9
M	-14	ILE	-	linker	UNP P0AEX9
M	-13	ASN	-	linker	UNP P0AEX9
M	-12	ALA	-	linker	UNP P0AEX9
M	-11	ALA	-	linker	UNP P0AEX9
M	-10	SER	-	linker	UNP P0AEX9
M	-9	GLY	-	linker	UNP P0AEX9
M	-8	ARG	-	linker	UNP P0AEX9
M	-7	GLN	-	linker	UNP P0AEX9
M	-6	THR	-	linker	UNP P0AEX9
M	-5	VAL	-	linker	UNP P0AEX9
M	-4	ASP	-	linker	UNP P0AEX9
M	-3	GLU	-	linker	UNP P0AEX9
M	-2	ALA	-	linker	UNP P0AEX9
M	-1	LEU	-	linker	UNP P0AEX9
M	0	LYS	-	linker	UNP P0AEX9
M	1	ASP	-	linker	UNP P0AEX9
M	2	ALA	-	linker	UNP P0AEX9
M	3	GLN	-	linker	UNP P0AEX9
M	4	THR	-	linker	UNP P0AEX9
M	5	ASN	-	linker	UNP P0AEX9
M	6	SER	-	linker	UNP P0AEX9
M	7	SER	-	linker	UNP P0AEX9
M	8	SER	-	linker	UNP P0AEX9
M	9	ASN	-	linker	UNP P0AEX9
M	10	ASN	-	linker	UNP P0AEX9
M	11	ASN	-	linker	UNP P0AEX9
M	12	ASN	-	linker	UNP P0AEX9
M	13	ASN	-	linker	UNP P0AEX9
M	14	ASN	-	linker	UNP P0AEX9
M	15	ASN	-	linker	UNP P0AEX9
M	16	ASN	-	linker	UNP P0AEX9
M	17	ASN	-	linker	UNP P0AEX9
M	18	ASN	-	linker	UNP P0AEX9
M	19	LEU	-	linker	UNP P0AEX9
M	20	GLY	-	linker	UNP P0AEX9
M	21	ILE	-	linker	UNP P0AEX9
M	22	GLU	-	linker	UNP P0AEX9
M	23	GLU	-	linker	UNP P0AEX9
M	24	ASN	-	linker	UNP P0AEX9
M	25	LEU	-	linker	UNP P0AEX9
M	26	TYR	-	linker	UNP P0AEX9

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Chain	Residue	Modelled	Actual	Comment	Reference
M	27	PHE	-	linker	UNP P0AEX9
M	28	GLN	-	linker	UNP P0AEX9
M	29	SER	-	linker	UNP P0AEX9
M	30	ASN	-	linker	UNP P0AEX9
M	31	ALA	-	linker	UNP P0AEX9
M	32	THR	-	linker	UNP P0AEX9
N	-375	MET	-	initiating methionine	UNP P0AEX9
N	-374	LYS	-	expression tag	UNP P0AEX9
N	-373	SER	-	expression tag	UNP P0AEX9
N	-372	SER	-	expression tag	UNP P0AEX9
N	-371	HIS	-	expression tag	UNP P0AEX9
N	-370	HIS	-	expression tag	UNP P0AEX9
N	-369	HIS	-	expression tag	UNP P0AEX9
N	-368	HIS	-	expression tag	UNP P0AEX9
N	-367	HIS	-	expression tag	UNP P0AEX9
N	-366	HIS	-	expression tag	UNP P0AEX9
N	-365	GLY	-	expression tag	UNP P0AEX9
N	-364	SER	-	expression tag	UNP P0AEX9
N	-363	SER	-	expression tag	UNP P0AEX9
N	-362	MET	-	expression tag	UNP P0AEX9
N	-26	MET	-	linker	UNP P0AEX9
N	-25	SER	-	linker	UNP P0AEX9
N	-24	ALA	-	linker	UNP P0AEX9
N	-23	PHE	-	linker	UNP P0AEX9
N	-22	TRP	-	linker	UNP P0AEX9
N	-21	TYR	-	linker	UNP P0AEX9
N	-20	ALA	-	linker	UNP P0AEX9
N	-19	VAL	-	linker	UNP P0AEX9
N	-18	ARG	-	linker	UNP P0AEX9
N	-17	THR	-	linker	UNP P0AEX9
N	-16	ALA	-	linker	UNP P0AEX9
N	-15	VAL	-	linker	UNP P0AEX9
N	-14	ILE	-	linker	UNP P0AEX9
N	-13	ASN	-	linker	UNP P0AEX9
N	-12	ALA	-	linker	UNP P0AEX9
N	-11	ALA	-	linker	UNP P0AEX9
N	-10	SER	-	linker	UNP P0AEX9
N	-9	GLY	-	linker	UNP P0AEX9
N	-8	ARG	-	linker	UNP P0AEX9
N	-7	GLN	-	linker	UNP P0AEX9
N	-6	THR	-	linker	UNP P0AEX9
N	-5	VAL	-	linker	UNP P0AEX9

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Chain	Residue	Modelled	Actual	Comment	Reference
N	-4	ASP	-	linker	UNP P0AEX9
N	-3	GLU	-	linker	UNP P0AEX9
N	-2	ALA	-	linker	UNP P0AEX9
N	-1	LEU	-	linker	UNP P0AEX9
N	0	LYS	-	linker	UNP P0AEX9
N	1	ASP	-	linker	UNP P0AEX9
N	2	ALA	-	linker	UNP P0AEX9
N	3	GLN	-	linker	UNP P0AEX9
N	4	THR	-	linker	UNP P0AEX9
N	5	ASN	-	linker	UNP P0AEX9
N	6	SER	-	linker	UNP P0AEX9
N	7	SER	-	linker	UNP P0AEX9
N	8	SER	-	linker	UNP P0AEX9
N	9	ASN	-	linker	UNP P0AEX9
N	10	ASN	-	linker	UNP P0AEX9
N	11	ASN	-	linker	UNP P0AEX9
N	12	ASN	-	linker	UNP P0AEX9
N	13	ASN	-	linker	UNP P0AEX9
N	14	ASN	-	linker	UNP P0AEX9
N	15	ASN	-	linker	UNP P0AEX9
N	16	ASN	-	linker	UNP P0AEX9
N	17	ASN	-	linker	UNP P0AEX9
N	18	ASN	-	linker	UNP P0AEX9
N	19	LEU	-	linker	UNP P0AEX9
N	20	GLY	-	linker	UNP P0AEX9
N	21	ILE	-	linker	UNP P0AEX9
N	22	GLU	-	linker	UNP P0AEX9
N	23	GLU	-	linker	UNP P0AEX9
N	24	ASN	-	linker	UNP P0AEX9
N	25	LEU	-	linker	UNP P0AEX9
N	26	TYR	-	linker	UNP P0AEX9
N	27	PHE	-	linker	UNP P0AEX9
N	28	GLN	-	linker	UNP P0AEX9
N	29	SER	-	linker	UNP P0AEX9
N	30	ASN	-	linker	UNP P0AEX9
N	31	ALA	-	linker	UNP P0AEX9
N	32	THR	-	linker	UNP P0AEX9
O	-375	MET	-	initiating methionine	UNP P0AEX9
O	-374	LYS	-	expression tag	UNP P0AEX9
O	-373	SER	-	expression tag	UNP P0AEX9
O	-372	SER	-	expression tag	UNP P0AEX9
O	-371	HIS	-	expression tag	UNP P0AEX9

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Chain	Residue	Modelled	Actual	Comment	Reference
O	-370	HIS	-	expression tag	UNP P0AEX9
O	-369	HIS	-	expression tag	UNP P0AEX9
O	-368	HIS	-	expression tag	UNP P0AEX9
O	-367	HIS	-	expression tag	UNP P0AEX9
O	-366	HIS	-	expression tag	UNP P0AEX9
O	-365	GLY	-	expression tag	UNP P0AEX9
O	-364	SER	-	expression tag	UNP P0AEX9
O	-363	SER	-	expression tag	UNP P0AEX9
O	-362	MET	-	expression tag	UNP P0AEX9
O	-26	MET	-	linker	UNP P0AEX9
O	-25	SER	-	linker	UNP P0AEX9
O	-24	ALA	-	linker	UNP P0AEX9
O	-23	PHE	-	linker	UNP P0AEX9
O	-22	TRP	-	linker	UNP P0AEX9
O	-21	TYR	-	linker	UNP P0AEX9
O	-20	ALA	-	linker	UNP P0AEX9
O	-19	VAL	-	linker	UNP P0AEX9
O	-18	ARG	-	linker	UNP P0AEX9
O	-17	THR	-	linker	UNP P0AEX9
O	-16	ALA	-	linker	UNP P0AEX9
O	-15	VAL	-	linker	UNP P0AEX9
O	-14	ILE	-	linker	UNP P0AEX9
O	-13	ASN	-	linker	UNP P0AEX9
O	-12	ALA	-	linker	UNP P0AEX9
O	-11	ALA	-	linker	UNP P0AEX9
O	-10	SER	-	linker	UNP P0AEX9
O	-9	GLY	-	linker	UNP P0AEX9
O	-8	ARG	-	linker	UNP P0AEX9
O	-7	GLN	-	linker	UNP P0AEX9
O	-6	THR	-	linker	UNP P0AEX9
O	-5	VAL	-	linker	UNP P0AEX9
O	-4	ASP	-	linker	UNP P0AEX9
O	-3	GLU	-	linker	UNP P0AEX9
O	-2	ALA	-	linker	UNP P0AEX9
O	-1	LEU	-	linker	UNP P0AEX9
O	0	LYS	-	linker	UNP P0AEX9
O	1	ASP	-	linker	UNP P0AEX9
O	2	ALA	-	linker	UNP P0AEX9
O	3	GLN	-	linker	UNP P0AEX9
O	4	THR	-	linker	UNP P0AEX9
O	5	ASN	-	linker	UNP P0AEX9
O	6	SER	-	linker	UNP P0AEX9

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Chain	Residue	Modelled	Actual	Comment	Reference
O	7	SER	-	linker	UNP P0AEX9
O	8	SER	-	linker	UNP P0AEX9
O	9	ASN	-	linker	UNP P0AEX9
O	10	ASN	-	linker	UNP P0AEX9
O	11	ASN	-	linker	UNP P0AEX9
O	12	ASN	-	linker	UNP P0AEX9
O	13	ASN	-	linker	UNP P0AEX9
O	14	ASN	-	linker	UNP P0AEX9
O	15	ASN	-	linker	UNP P0AEX9
O	16	ASN	-	linker	UNP P0AEX9
O	17	ASN	-	linker	UNP P0AEX9
O	18	ASN	-	linker	UNP P0AEX9
O	19	LEU	-	linker	UNP P0AEX9
O	20	GLY	-	linker	UNP P0AEX9
O	21	ILE	-	linker	UNP P0AEX9
O	22	GLU	-	linker	UNP P0AEX9
O	23	GLU	-	linker	UNP P0AEX9
O	24	ASN	-	linker	UNP P0AEX9
O	25	LEU	-	linker	UNP P0AEX9
O	26	TYR	-	linker	UNP P0AEX9
O	27	PHE	-	linker	UNP P0AEX9
O	28	GLN	-	linker	UNP P0AEX9
O	29	SER	-	linker	UNP P0AEX9
O	30	ASN	-	linker	UNP P0AEX9
O	31	ALA	-	linker	UNP P0AEX9
O	32	THR	-	linker	UNP P0AEX9
P	-375	MET	-	initiating methionine	UNP P0AEX9
P	-374	LYS	-	expression tag	UNP P0AEX9
P	-373	SER	-	expression tag	UNP P0AEX9
P	-372	SER	-	expression tag	UNP P0AEX9
P	-371	HIS	-	expression tag	UNP P0AEX9
P	-370	HIS	-	expression tag	UNP P0AEX9
P	-369	HIS	-	expression tag	UNP P0AEX9
P	-368	HIS	-	expression tag	UNP P0AEX9
P	-367	HIS	-	expression tag	UNP P0AEX9
P	-366	HIS	-	expression tag	UNP P0AEX9
P	-365	GLY	-	expression tag	UNP P0AEX9
P	-364	SER	-	expression tag	UNP P0AEX9
P	-363	SER	-	expression tag	UNP P0AEX9
P	-362	MET	-	expression tag	UNP P0AEX9
P	-26	MET	-	linker	UNP P0AEX9
P	-25	SER	-	linker	UNP P0AEX9

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Chain	Residue	Modelled	Actual	Comment	Reference
P	-24	ALA	-	linker	UNP P0AEX9
P	-23	PHE	-	linker	UNP P0AEX9
P	-22	TRP	-	linker	UNP P0AEX9
P	-21	TYR	-	linker	UNP P0AEX9
P	-20	ALA	-	linker	UNP P0AEX9
P	-19	VAL	-	linker	UNP P0AEX9
P	-18	ARG	-	linker	UNP P0AEX9
P	-17	THR	-	linker	UNP P0AEX9
P	-16	ALA	-	linker	UNP P0AEX9
P	-15	VAL	-	linker	UNP P0AEX9
P	-14	ILE	-	linker	UNP P0AEX9
P	-13	ASN	-	linker	UNP P0AEX9
P	-12	ALA	-	linker	UNP P0AEX9
P	-11	ALA	-	linker	UNP P0AEX9
P	-10	SER	-	linker	UNP P0AEX9
P	-9	GLY	-	linker	UNP P0AEX9
P	-8	ARG	-	linker	UNP P0AEX9
P	-7	GLN	-	linker	UNP P0AEX9
P	-6	THR	-	linker	UNP P0AEX9
P	-5	VAL	-	linker	UNP P0AEX9
P	-4	ASP	-	linker	UNP P0AEX9
P	-3	GLU	-	linker	UNP P0AEX9
P	-2	ALA	-	linker	UNP P0AEX9
P	-1	LEU	-	linker	UNP P0AEX9
P	0	LYS	-	linker	UNP P0AEX9
P	1	ASP	-	linker	UNP P0AEX9
P	2	ALA	-	linker	UNP P0AEX9
P	3	GLN	-	linker	UNP P0AEX9
P	4	THR	-	linker	UNP P0AEX9
P	5	ASN	-	linker	UNP P0AEX9
P	6	SER	-	linker	UNP P0AEX9
P	7	SER	-	linker	UNP P0AEX9
P	8	SER	-	linker	UNP P0AEX9
P	9	ASN	-	linker	UNP P0AEX9
P	10	ASN	-	linker	UNP P0AEX9
P	11	ASN	-	linker	UNP P0AEX9
P	12	ASN	-	linker	UNP P0AEX9
P	13	ASN	-	linker	UNP P0AEX9
P	14	ASN	-	linker	UNP P0AEX9
P	15	ASN	-	linker	UNP P0AEX9
P	16	ASN	-	linker	UNP P0AEX9
P	17	ASN	-	linker	UNP P0AEX9

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Chain	Residue	Modelled	Actual	Comment	Reference
P	18	ASN	-	linker	UNP P0AEX9
P	19	LEU	-	linker	UNP P0AEX9
P	20	GLY	-	linker	UNP P0AEX9
P	21	ILE	-	linker	UNP P0AEX9
P	22	GLU	-	linker	UNP P0AEX9
P	23	GLU	-	linker	UNP P0AEX9
P	24	ASN	-	linker	UNP P0AEX9
P	25	LEU	-	linker	UNP P0AEX9
P	26	TYR	-	linker	UNP P0AEX9
P	27	PHE	-	linker	UNP P0AEX9
P	28	GLN	-	linker	UNP P0AEX9
P	29	SER	-	linker	UNP P0AEX9
P	30	ASN	-	linker	UNP P0AEX9
P	31	ALA	-	linker	UNP P0AEX9
P	32	THR	-	linker	UNP P0AEX9
Q	-375	MET	-	initiating methionine	UNP P0AEX9
Q	-374	LYS	-	expression tag	UNP P0AEX9
Q	-373	SER	-	expression tag	UNP P0AEX9
Q	-372	SER	-	expression tag	UNP P0AEX9
Q	-371	HIS	-	expression tag	UNP P0AEX9
Q	-370	HIS	-	expression tag	UNP P0AEX9
Q	-369	HIS	-	expression tag	UNP P0AEX9
Q	-368	HIS	-	expression tag	UNP P0AEX9
Q	-367	HIS	-	expression tag	UNP P0AEX9
Q	-366	HIS	-	expression tag	UNP P0AEX9
Q	-365	GLY	-	expression tag	UNP P0AEX9
Q	-364	SER	-	expression tag	UNP P0AEX9
Q	-363	SER	-	expression tag	UNP P0AEX9
Q	-362	MET	-	expression tag	UNP P0AEX9
Q	-26	MET	-	linker	UNP P0AEX9
Q	-25	SER	-	linker	UNP P0AEX9
Q	-24	ALA	-	linker	UNP P0AEX9
Q	-23	PHE	-	linker	UNP P0AEX9
Q	-22	TRP	-	linker	UNP P0AEX9
Q	-21	TYR	-	linker	UNP P0AEX9
Q	-20	ALA	-	linker	UNP P0AEX9
Q	-19	VAL	-	linker	UNP P0AEX9
Q	-18	ARG	-	linker	UNP P0AEX9
Q	-17	THR	-	linker	UNP P0AEX9
Q	-16	ALA	-	linker	UNP P0AEX9
Q	-15	VAL	-	linker	UNP P0AEX9
Q	-14	ILE	-	linker	UNP P0AEX9

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Chain	Residue	Modelled	Actual	Comment	Reference
Q	-13	ASN	-	linker	UNP P0AEX9
Q	-12	ALA	-	linker	UNP P0AEX9
Q	-11	ALA	-	linker	UNP P0AEX9
Q	-10	SER	-	linker	UNP P0AEX9
Q	-9	GLY	-	linker	UNP P0AEX9
Q	-8	ARG	-	linker	UNP P0AEX9
Q	-7	GLN	-	linker	UNP P0AEX9
Q	-6	THR	-	linker	UNP P0AEX9
Q	-5	VAL	-	linker	UNP P0AEX9
Q	-4	ASP	-	linker	UNP P0AEX9
Q	-3	GLU	-	linker	UNP P0AEX9
Q	-2	ALA	-	linker	UNP P0AEX9
Q	-1	LEU	-	linker	UNP P0AEX9
Q	0	LYS	-	linker	UNP P0AEX9
Q	1	ASP	-	linker	UNP P0AEX9
Q	2	ALA	-	linker	UNP P0AEX9
Q	3	GLN	-	linker	UNP P0AEX9
Q	4	THR	-	linker	UNP P0AEX9
Q	5	ASN	-	linker	UNP P0AEX9
Q	6	SER	-	linker	UNP P0AEX9
Q	7	SER	-	linker	UNP P0AEX9
Q	8	SER	-	linker	UNP P0AEX9
Q	9	ASN	-	linker	UNP P0AEX9
Q	10	ASN	-	linker	UNP P0AEX9
Q	11	ASN	-	linker	UNP P0AEX9
Q	12	ASN	-	linker	UNP P0AEX9
Q	13	ASN	-	linker	UNP P0AEX9
Q	14	ASN	-	linker	UNP P0AEX9
Q	15	ASN	-	linker	UNP P0AEX9
Q	16	ASN	-	linker	UNP P0AEX9
Q	17	ASN	-	linker	UNP P0AEX9
Q	18	ASN	-	linker	UNP P0AEX9
Q	19	LEU	-	linker	UNP P0AEX9
Q	20	GLY	-	linker	UNP P0AEX9
Q	21	ILE	-	linker	UNP P0AEX9
Q	22	GLU	-	linker	UNP P0AEX9
Q	23	GLU	-	linker	UNP P0AEX9
Q	24	ASN	-	linker	UNP P0AEX9
Q	25	LEU	-	linker	UNP P0AEX9
Q	26	TYR	-	linker	UNP P0AEX9
Q	27	PHE	-	linker	UNP P0AEX9
Q	28	GLN	-	linker	UNP P0AEX9

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Chain	Residue	Modelled	Actual	Comment	Reference
Q	29	SER	-	linker	UNP P0AEX9
Q	30	ASN	-	linker	UNP P0AEX9
Q	31	ALA	-	linker	UNP P0AEX9
Q	32	THR	-	linker	UNP P0AEX9
R	-375	MET	-	initiating methionine	UNP P0AEX9
R	-374	LYS	-	expression tag	UNP P0AEX9
R	-373	SER	-	expression tag	UNP P0AEX9
R	-372	SER	-	expression tag	UNP P0AEX9
R	-371	HIS	-	expression tag	UNP P0AEX9
R	-370	HIS	-	expression tag	UNP P0AEX9
R	-369	HIS	-	expression tag	UNP P0AEX9
R	-368	HIS	-	expression tag	UNP P0AEX9
R	-367	HIS	-	expression tag	UNP P0AEX9
R	-366	HIS	-	expression tag	UNP P0AEX9
R	-365	GLY	-	expression tag	UNP P0AEX9
R	-364	SER	-	expression tag	UNP P0AEX9
R	-363	SER	-	expression tag	UNP P0AEX9
R	-362	MET	-	expression tag	UNP P0AEX9
R	-26	MET	-	linker	UNP P0AEX9
R	-25	SER	-	linker	UNP P0AEX9
R	-24	ALA	-	linker	UNP P0AEX9
R	-23	PHE	-	linker	UNP P0AEX9
R	-22	TRP	-	linker	UNP P0AEX9
R	-21	TYR	-	linker	UNP P0AEX9
R	-20	ALA	-	linker	UNP P0AEX9
R	-19	VAL	-	linker	UNP P0AEX9
R	-18	ARG	-	linker	UNP P0AEX9
R	-17	THR	-	linker	UNP P0AEX9
R	-16	ALA	-	linker	UNP P0AEX9
R	-15	VAL	-	linker	UNP P0AEX9
R	-14	ILE	-	linker	UNP P0AEX9
R	-13	ASN	-	linker	UNP P0AEX9
R	-12	ALA	-	linker	UNP P0AEX9
R	-11	ALA	-	linker	UNP P0AEX9
R	-10	SER	-	linker	UNP P0AEX9
R	-9	GLY	-	linker	UNP P0AEX9
R	-8	ARG	-	linker	UNP P0AEX9
R	-7	GLN	-	linker	UNP P0AEX9
R	-6	THR	-	linker	UNP P0AEX9
R	-5	VAL	-	linker	UNP P0AEX9
R	-4	ASP	-	linker	UNP P0AEX9
R	-3	GLU	-	linker	UNP P0AEX9

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Chain	Residue	Modelled	Actual	Comment	Reference
R	-2	ALA	-	linker	UNP P0AEX9
R	-1	LEU	-	linker	UNP P0AEX9
R	0	LYS	-	linker	UNP P0AEX9
R	1	ASP	-	linker	UNP P0AEX9
R	2	ALA	-	linker	UNP P0AEX9
R	3	GLN	-	linker	UNP P0AEX9
R	4	THR	-	linker	UNP P0AEX9
R	5	ASN	-	linker	UNP P0AEX9
R	6	SER	-	linker	UNP P0AEX9
R	7	SER	-	linker	UNP P0AEX9
R	8	SER	-	linker	UNP P0AEX9
R	9	ASN	-	linker	UNP P0AEX9
R	10	ASN	-	linker	UNP P0AEX9
R	11	ASN	-	linker	UNP P0AEX9
R	12	ASN	-	linker	UNP P0AEX9
R	13	ASN	-	linker	UNP P0AEX9
R	14	ASN	-	linker	UNP P0AEX9
R	15	ASN	-	linker	UNP P0AEX9
R	16	ASN	-	linker	UNP P0AEX9
R	17	ASN	-	linker	UNP P0AEX9
R	18	ASN	-	linker	UNP P0AEX9
R	19	LEU	-	linker	UNP P0AEX9
R	20	GLY	-	linker	UNP P0AEX9
R	21	ILE	-	linker	UNP P0AEX9
R	22	GLU	-	linker	UNP P0AEX9
R	23	GLU	-	linker	UNP P0AEX9
R	24	ASN	-	linker	UNP P0AEX9
R	25	LEU	-	linker	UNP P0AEX9
R	26	TYR	-	linker	UNP P0AEX9
R	27	PHE	-	linker	UNP P0AEX9
R	28	GLN	-	linker	UNP P0AEX9
R	29	SER	-	linker	UNP P0AEX9
R	30	ASN	-	linker	UNP P0AEX9
R	31	ALA	-	linker	UNP P0AEX9
R	32	THR	-	linker	UNP P0AEX9
S	-375	MET	-	initiating methionine	UNP P0AEX9
S	-374	LYS	-	expression tag	UNP P0AEX9
S	-373	SER	-	expression tag	UNP P0AEX9
S	-372	SER	-	expression tag	UNP P0AEX9
S	-371	HIS	-	expression tag	UNP P0AEX9
S	-370	HIS	-	expression tag	UNP P0AEX9
S	-369	HIS	-	expression tag	UNP P0AEX9

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Chain	Residue	Modelled	Actual	Comment	Reference
S	-368	HIS	-	expression tag	UNP P0AEX9
S	-367	HIS	-	expression tag	UNP P0AEX9
S	-366	HIS	-	expression tag	UNP P0AEX9
S	-365	GLY	-	expression tag	UNP P0AEX9
S	-364	SER	-	expression tag	UNP P0AEX9
S	-363	SER	-	expression tag	UNP P0AEX9
S	-362	MET	-	expression tag	UNP P0AEX9
S	-26	MET	-	linker	UNP P0AEX9
S	-25	SER	-	linker	UNP P0AEX9
S	-24	ALA	-	linker	UNP P0AEX9
S	-23	PHE	-	linker	UNP P0AEX9
S	-22	TRP	-	linker	UNP P0AEX9
S	-21	TYR	-	linker	UNP P0AEX9
S	-20	ALA	-	linker	UNP P0AEX9
S	-19	VAL	-	linker	UNP P0AEX9
S	-18	ARG	-	linker	UNP P0AEX9
S	-17	THR	-	linker	UNP P0AEX9
S	-16	ALA	-	linker	UNP P0AEX9
S	-15	VAL	-	linker	UNP P0AEX9
S	-14	ILE	-	linker	UNP P0AEX9
S	-13	ASN	-	linker	UNP P0AEX9
S	-12	ALA	-	linker	UNP P0AEX9
S	-11	ALA	-	linker	UNP P0AEX9
S	-10	SER	-	linker	UNP P0AEX9
S	-9	GLY	-	linker	UNP P0AEX9
S	-8	ARG	-	linker	UNP P0AEX9
S	-7	GLN	-	linker	UNP P0AEX9
S	-6	THR	-	linker	UNP P0AEX9
S	-5	VAL	-	linker	UNP P0AEX9
S	-4	ASP	-	linker	UNP P0AEX9
S	-3	GLU	-	linker	UNP P0AEX9
S	-2	ALA	-	linker	UNP P0AEX9
S	-1	LEU	-	linker	UNP P0AEX9
S	0	LYS	-	linker	UNP P0AEX9
S	1	ASP	-	linker	UNP P0AEX9
S	2	ALA	-	linker	UNP P0AEX9
S	3	GLN	-	linker	UNP P0AEX9
S	4	THR	-	linker	UNP P0AEX9
S	5	ASN	-	linker	UNP P0AEX9
S	6	SER	-	linker	UNP P0AEX9
S	7	SER	-	linker	UNP P0AEX9
S	8	SER	-	linker	UNP P0AEX9

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Chain	Residue	Modelled	Actual	Comment	Reference
S	9	ASN	-	linker	UNP P0AEX9
S	10	ASN	-	linker	UNP P0AEX9
S	11	ASN	-	linker	UNP P0AEX9
S	12	ASN	-	linker	UNP P0AEX9
S	13	ASN	-	linker	UNP P0AEX9
S	14	ASN	-	linker	UNP P0AEX9
S	15	ASN	-	linker	UNP P0AEX9
S	16	ASN	-	linker	UNP P0AEX9
S	17	ASN	-	linker	UNP P0AEX9
S	18	ASN	-	linker	UNP P0AEX9
S	19	LEU	-	linker	UNP P0AEX9
S	20	GLY	-	linker	UNP P0AEX9
S	21	ILE	-	linker	UNP P0AEX9
S	22	GLU	-	linker	UNP P0AEX9
S	23	GLU	-	linker	UNP P0AEX9
S	24	ASN	-	linker	UNP P0AEX9
S	25	LEU	-	linker	UNP P0AEX9
S	26	TYR	-	linker	UNP P0AEX9
S	27	PHE	-	linker	UNP P0AEX9
S	28	GLN	-	linker	UNP P0AEX9
S	29	SER	-	linker	UNP P0AEX9
S	30	ASN	-	linker	UNP P0AEX9
S	31	ALA	-	linker	UNP P0AEX9
S	32	THR	-	linker	UNP P0AEX9
T	-375	MET	-	initiating methionine	UNP P0AEX9
T	-374	LYS	-	expression tag	UNP P0AEX9
T	-373	SER	-	expression tag	UNP P0AEX9
T	-372	SER	-	expression tag	UNP P0AEX9
T	-371	HIS	-	expression tag	UNP P0AEX9
T	-370	HIS	-	expression tag	UNP P0AEX9
T	-369	HIS	-	expression tag	UNP P0AEX9
T	-368	HIS	-	expression tag	UNP P0AEX9
T	-367	HIS	-	expression tag	UNP P0AEX9
T	-366	HIS	-	expression tag	UNP P0AEX9
T	-365	GLY	-	expression tag	UNP P0AEX9
T	-364	SER	-	expression tag	UNP P0AEX9
T	-363	SER	-	expression tag	UNP P0AEX9
T	-362	MET	-	expression tag	UNP P0AEX9
T	-26	MET	-	linker	UNP P0AEX9
T	-25	SER	-	linker	UNP P0AEX9
T	-24	ALA	-	linker	UNP P0AEX9
T	-23	PHE	-	linker	UNP P0AEX9

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Chain	Residue	Modelled	Actual	Comment	Reference
T	-22	TRP	-	linker	UNP P0AEX9
T	-21	TYR	-	linker	UNP P0AEX9
T	-20	ALA	-	linker	UNP P0AEX9
T	-19	VAL	-	linker	UNP P0AEX9
T	-18	ARG	-	linker	UNP P0AEX9
T	-17	THR	-	linker	UNP P0AEX9
T	-16	ALA	-	linker	UNP P0AEX9
T	-15	VAL	-	linker	UNP P0AEX9
T	-14	ILE	-	linker	UNP P0AEX9
T	-13	ASN	-	linker	UNP P0AEX9
T	-12	ALA	-	linker	UNP P0AEX9
T	-11	ALA	-	linker	UNP P0AEX9
T	-10	SER	-	linker	UNP P0AEX9
T	-9	GLY	-	linker	UNP P0AEX9
T	-8	ARG	-	linker	UNP P0AEX9
T	-7	GLN	-	linker	UNP P0AEX9
T	-6	THR	-	linker	UNP P0AEX9
T	-5	VAL	-	linker	UNP P0AEX9
T	-4	ASP	-	linker	UNP P0AEX9
T	-3	GLU	-	linker	UNP P0AEX9
T	-2	ALA	-	linker	UNP P0AEX9
T	-1	LEU	-	linker	UNP P0AEX9
T	0	LYS	-	linker	UNP P0AEX9
T	1	ASP	-	linker	UNP P0AEX9
T	2	ALA	-	linker	UNP P0AEX9
T	3	GLN	-	linker	UNP P0AEX9
T	4	THR	-	linker	UNP P0AEX9
T	5	ASN	-	linker	UNP P0AEX9
T	6	SER	-	linker	UNP P0AEX9
T	7	SER	-	linker	UNP P0AEX9
T	8	SER	-	linker	UNP P0AEX9
T	9	ASN	-	linker	UNP P0AEX9
T	10	ASN	-	linker	UNP P0AEX9
T	11	ASN	-	linker	UNP P0AEX9
T	12	ASN	-	linker	UNP P0AEX9
T	13	ASN	-	linker	UNP P0AEX9
T	14	ASN	-	linker	UNP P0AEX9
T	15	ASN	-	linker	UNP P0AEX9
T	16	ASN	-	linker	UNP P0AEX9
T	17	ASN	-	linker	UNP P0AEX9
T	18	ASN	-	linker	UNP P0AEX9
T	19	LEU	-	linker	UNP P0AEX9

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Chain	Residue	Modelled	Actual	Comment	Reference
T	20	GLY	-	linker	UNP P0AEX9
T	21	ILE	-	linker	UNP P0AEX9
T	22	GLU	-	linker	UNP P0AEX9
T	23	GLU	-	linker	UNP P0AEX9
T	24	ASN	-	linker	UNP P0AEX9
T	25	LEU	-	linker	UNP P0AEX9
T	26	TYR	-	linker	UNP P0AEX9
T	27	PHE	-	linker	UNP P0AEX9
T	28	GLN	-	linker	UNP P0AEX9
T	29	SER	-	linker	UNP P0AEX9
T	30	ASN	-	linker	UNP P0AEX9
T	31	ALA	-	linker	UNP P0AEX9
T	32	THR	-	linker	UNP P0AEX9
V	-375	MET	-	initiating methionine	UNP P0AEX9
V	-374	LYS	-	expression tag	UNP P0AEX9
V	-373	SER	-	expression tag	UNP P0AEX9
V	-372	SER	-	expression tag	UNP P0AEX9
V	-371	HIS	-	expression tag	UNP P0AEX9
V	-370	HIS	-	expression tag	UNP P0AEX9
V	-369	HIS	-	expression tag	UNP P0AEX9
V	-368	HIS	-	expression tag	UNP P0AEX9
V	-367	HIS	-	expression tag	UNP P0AEX9
V	-366	HIS	-	expression tag	UNP P0AEX9
V	-365	GLY	-	expression tag	UNP P0AEX9
V	-364	SER	-	expression tag	UNP P0AEX9
V	-363	SER	-	expression tag	UNP P0AEX9
V	-362	MET	-	expression tag	UNP P0AEX9
V	-26	MET	-	linker	UNP P0AEX9
V	-25	SER	-	linker	UNP P0AEX9
V	-24	ALA	-	linker	UNP P0AEX9
V	-23	PHE	-	linker	UNP P0AEX9
V	-22	TRP	-	linker	UNP P0AEX9
V	-21	TYR	-	linker	UNP P0AEX9
V	-20	ALA	-	linker	UNP P0AEX9
V	-19	VAL	-	linker	UNP P0AEX9
V	-18	ARG	-	linker	UNP P0AEX9
V	-17	THR	-	linker	UNP P0AEX9
V	-16	ALA	-	linker	UNP P0AEX9
V	-15	VAL	-	linker	UNP P0AEX9
V	-14	ILE	-	linker	UNP P0AEX9
V	-13	ASN	-	linker	UNP P0AEX9
V	-12	ALA	-	linker	UNP P0AEX9

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Chain	Residue	Modelled	Actual	Comment	Reference
V	-11	ALA	-	linker	UNP P0AEX9
V	-10	SER	-	linker	UNP P0AEX9
V	-9	GLY	-	linker	UNP P0AEX9
V	-8	ARG	-	linker	UNP P0AEX9
V	-7	GLN	-	linker	UNP P0AEX9
V	-6	THR	-	linker	UNP P0AEX9
V	-5	VAL	-	linker	UNP P0AEX9
V	-4	ASP	-	linker	UNP P0AEX9
V	-3	GLU	-	linker	UNP P0AEX9
V	-2	ALA	-	linker	UNP P0AEX9
V	-1	LEU	-	linker	UNP P0AEX9
V	0	LYS	-	linker	UNP P0AEX9
V	1	ASP	-	linker	UNP P0AEX9
V	2	ALA	-	linker	UNP P0AEX9
V	3	GLN	-	linker	UNP P0AEX9
V	4	THR	-	linker	UNP P0AEX9
V	5	ASN	-	linker	UNP P0AEX9
V	6	SER	-	linker	UNP P0AEX9
V	7	SER	-	linker	UNP P0AEX9
V	8	SER	-	linker	UNP P0AEX9
V	9	ASN	-	linker	UNP P0AEX9
V	10	ASN	-	linker	UNP P0AEX9
V	11	ASN	-	linker	UNP P0AEX9
V	12	ASN	-	linker	UNP P0AEX9
V	13	ASN	-	linker	UNP P0AEX9
V	14	ASN	-	linker	UNP P0AEX9
V	15	ASN	-	linker	UNP P0AEX9
V	16	ASN	-	linker	UNP P0AEX9
V	17	ASN	-	linker	UNP P0AEX9
V	18	ASN	-	linker	UNP P0AEX9
V	19	LEU	-	linker	UNP P0AEX9
V	20	GLY	-	linker	UNP P0AEX9
V	21	ILE	-	linker	UNP P0AEX9
V	22	GLU	-	linker	UNP P0AEX9
V	23	GLU	-	linker	UNP P0AEX9
V	24	ASN	-	linker	UNP P0AEX9
V	25	LEU	-	linker	UNP P0AEX9
V	26	TYR	-	linker	UNP P0AEX9
V	27	PHE	-	linker	UNP P0AEX9
V	28	GLN	-	linker	UNP P0AEX9
V	29	SER	-	linker	UNP P0AEX9
V	30	ASN	-	linker	UNP P0AEX9

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Chain	Residue	Modelled	Actual	Comment	Reference
V	31	ALA	-	linker	UNP P0AEX9
V	32	THR	-	linker	UNP P0AEX9
W	-375	MET	-	initiating methionine	UNP P0AEX9
W	-374	LYS	-	expression tag	UNP P0AEX9
W	-373	SER	-	expression tag	UNP P0AEX9
W	-372	SER	-	expression tag	UNP P0AEX9
W	-371	HIS	-	expression tag	UNP P0AEX9
W	-370	HIS	-	expression tag	UNP P0AEX9
W	-369	HIS	-	expression tag	UNP P0AEX9
W	-368	HIS	-	expression tag	UNP P0AEX9
W	-367	HIS	-	expression tag	UNP P0AEX9
W	-366	HIS	-	expression tag	UNP P0AEX9
W	-365	GLY	-	expression tag	UNP P0AEX9
W	-364	SER	-	expression tag	UNP P0AEX9
W	-363	SER	-	expression tag	UNP P0AEX9
W	-362	MET	-	expression tag	UNP P0AEX9
W	-26	MET	-	linker	UNP P0AEX9
W	-25	SER	-	linker	UNP P0AEX9
W	-24	ALA	-	linker	UNP P0AEX9
W	-23	PHE	-	linker	UNP P0AEX9
W	-22	TRP	-	linker	UNP P0AEX9
W	-21	TYR	-	linker	UNP P0AEX9
W	-20	ALA	-	linker	UNP P0AEX9
W	-19	VAL	-	linker	UNP P0AEX9
W	-18	ARG	-	linker	UNP P0AEX9
W	-17	THR	-	linker	UNP P0AEX9
W	-16	ALA	-	linker	UNP P0AEX9
W	-15	VAL	-	linker	UNP P0AEX9
W	-14	ILE	-	linker	UNP P0AEX9
W	-13	ASN	-	linker	UNP P0AEX9
W	-12	ALA	-	linker	UNP P0AEX9
W	-11	ALA	-	linker	UNP P0AEX9
W	-10	SER	-	linker	UNP P0AEX9
W	-9	GLY	-	linker	UNP P0AEX9
W	-8	ARG	-	linker	UNP P0AEX9
W	-7	GLN	-	linker	UNP P0AEX9
W	-6	THR	-	linker	UNP P0AEX9
W	-5	VAL	-	linker	UNP P0AEX9
W	-4	ASP	-	linker	UNP P0AEX9
W	-3	GLU	-	linker	UNP P0AEX9
W	-2	ALA	-	linker	UNP P0AEX9
W	-1	LEU	-	linker	UNP P0AEX9

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Chain	Residue	Modelled	Actual	Comment	Reference
W	0	LYS	-	linker	UNP P0AEX9
W	1	ASP	-	linker	UNP P0AEX9
W	2	ALA	-	linker	UNP P0AEX9
W	3	GLN	-	linker	UNP P0AEX9
W	4	THR	-	linker	UNP P0AEX9
W	5	ASN	-	linker	UNP P0AEX9
W	6	SER	-	linker	UNP P0AEX9
W	7	SER	-	linker	UNP P0AEX9
W	8	SER	-	linker	UNP P0AEX9
W	9	ASN	-	linker	UNP P0AEX9
W	10	ASN	-	linker	UNP P0AEX9
W	11	ASN	-	linker	UNP P0AEX9
W	12	ASN	-	linker	UNP P0AEX9
W	13	ASN	-	linker	UNP P0AEX9
W	14	ASN	-	linker	UNP P0AEX9
W	15	ASN	-	linker	UNP P0AEX9
W	16	ASN	-	linker	UNP P0AEX9
W	17	ASN	-	linker	UNP P0AEX9
W	18	ASN	-	linker	UNP P0AEX9
W	19	LEU	-	linker	UNP P0AEX9
W	20	GLY	-	linker	UNP P0AEX9
W	21	ILE	-	linker	UNP P0AEX9
W	22	GLU	-	linker	UNP P0AEX9
W	23	GLU	-	linker	UNP P0AEX9
W	24	ASN	-	linker	UNP P0AEX9
W	25	LEU	-	linker	UNP P0AEX9
W	26	TYR	-	linker	UNP P0AEX9
W	27	PHE	-	linker	UNP P0AEX9
W	28	GLN	-	linker	UNP P0AEX9
W	29	SER	-	linker	UNP P0AEX9
W	30	ASN	-	linker	UNP P0AEX9
W	31	ALA	-	linker	UNP P0AEX9
W	32	THR	-	linker	UNP P0AEX9
X	-375	MET	-	initiating methionine	UNP P0AEX9
X	-374	LYS	-	expression tag	UNP P0AEX9
X	-373	SER	-	expression tag	UNP P0AEX9
X	-372	SER	-	expression tag	UNP P0AEX9
X	-371	HIS	-	expression tag	UNP P0AEX9
X	-370	HIS	-	expression tag	UNP P0AEX9
X	-369	HIS	-	expression tag	UNP P0AEX9
X	-368	HIS	-	expression tag	UNP P0AEX9
X	-367	HIS	-	expression tag	UNP P0AEX9

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Chain	Residue	Modelled	Actual	Comment	Reference
X	-366	HIS	-	expression tag	UNP P0AEX9
X	-365	GLY	-	expression tag	UNP P0AEX9
X	-364	SER	-	expression tag	UNP P0AEX9
X	-363	SER	-	expression tag	UNP P0AEX9
X	-362	MET	-	expression tag	UNP P0AEX9
X	-26	MET	-	linker	UNP P0AEX9
X	-25	SER	-	linker	UNP P0AEX9
X	-24	ALA	-	linker	UNP P0AEX9
X	-23	PHE	-	linker	UNP P0AEX9
X	-22	TRP	-	linker	UNP P0AEX9
X	-21	TYR	-	linker	UNP P0AEX9
X	-20	ALA	-	linker	UNP P0AEX9
X	-19	VAL	-	linker	UNP P0AEX9
X	-18	ARG	-	linker	UNP P0AEX9
X	-17	THR	-	linker	UNP P0AEX9
X	-16	ALA	-	linker	UNP P0AEX9
X	-15	VAL	-	linker	UNP P0AEX9
X	-14	ILE	-	linker	UNP P0AEX9
X	-13	ASN	-	linker	UNP P0AEX9
X	-12	ALA	-	linker	UNP P0AEX9
X	-11	ALA	-	linker	UNP P0AEX9
X	-10	SER	-	linker	UNP P0AEX9
X	-9	GLY	-	linker	UNP P0AEX9
X	-8	ARG	-	linker	UNP P0AEX9
X	-7	GLN	-	linker	UNP P0AEX9
X	-6	THR	-	linker	UNP P0AEX9
X	-5	VAL	-	linker	UNP P0AEX9
X	-4	ASP	-	linker	UNP P0AEX9
X	-3	GLU	-	linker	UNP P0AEX9
X	-2	ALA	-	linker	UNP P0AEX9
X	-1	LEU	-	linker	UNP P0AEX9
X	0	LYS	-	linker	UNP P0AEX9
X	1	ASP	-	linker	UNP P0AEX9
X	2	ALA	-	linker	UNP P0AEX9
X	3	GLN	-	linker	UNP P0AEX9
X	4	THR	-	linker	UNP P0AEX9
X	5	ASN	-	linker	UNP P0AEX9
X	6	SER	-	linker	UNP P0AEX9
X	7	SER	-	linker	UNP P0AEX9
X	8	SER	-	linker	UNP P0AEX9
X	9	ASN	-	linker	UNP P0AEX9
X	10	ASN	-	linker	UNP P0AEX9

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Chain	Residue	Modelled	Actual	Comment	Reference
X	11	ASN	-	linker	UNP P0AEX9
X	12	ASN	-	linker	UNP P0AEX9
X	13	ASN	-	linker	UNP P0AEX9
X	14	ASN	-	linker	UNP P0AEX9
X	15	ASN	-	linker	UNP P0AEX9
X	16	ASN	-	linker	UNP P0AEX9
X	17	ASN	-	linker	UNP P0AEX9
X	18	ASN	-	linker	UNP P0AEX9
X	19	LEU	-	linker	UNP P0AEX9
X	20	GLY	-	linker	UNP P0AEX9
X	21	ILE	-	linker	UNP P0AEX9
X	22	GLU	-	linker	UNP P0AEX9
X	23	GLU	-	linker	UNP P0AEX9
X	24	ASN	-	linker	UNP P0AEX9
X	25	LEU	-	linker	UNP P0AEX9
X	26	TYR	-	linker	UNP P0AEX9
X	27	PHE	-	linker	UNP P0AEX9
X	28	GLN	-	linker	UNP P0AEX9
X	29	SER	-	linker	UNP P0AEX9
X	30	ASN	-	linker	UNP P0AEX9
X	31	ALA	-	linker	UNP P0AEX9
X	32	THR	-	linker	UNP P0AEX9
Y	-375	MET	-	initiating methionine	UNP P0AEX9
Y	-374	LYS	-	expression tag	UNP P0AEX9
Y	-373	SER	-	expression tag	UNP P0AEX9
Y	-372	SER	-	expression tag	UNP P0AEX9
Y	-371	HIS	-	expression tag	UNP P0AEX9
Y	-370	HIS	-	expression tag	UNP P0AEX9
Y	-369	HIS	-	expression tag	UNP P0AEX9
Y	-368	HIS	-	expression tag	UNP P0AEX9
Y	-367	HIS	-	expression tag	UNP P0AEX9
Y	-366	HIS	-	expression tag	UNP P0AEX9
Y	-365	GLY	-	expression tag	UNP P0AEX9
Y	-364	SER	-	expression tag	UNP P0AEX9
Y	-363	SER	-	expression tag	UNP P0AEX9
Y	-362	MET	-	expression tag	UNP P0AEX9
Y	-26	MET	-	linker	UNP P0AEX9
Y	-25	SER	-	linker	UNP P0AEX9
Y	-24	ALA	-	linker	UNP P0AEX9
Y	-23	PHE	-	linker	UNP P0AEX9
Y	-22	TRP	-	linker	UNP P0AEX9
Y	-21	TYR	-	linker	UNP P0AEX9

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Chain	Residue	Modelled	Actual	Comment	Reference
Y	-20	ALA	-	linker	UNP P0AEX9
Y	-19	VAL	-	linker	UNP P0AEX9
Y	-18	ARG	-	linker	UNP P0AEX9
Y	-17	THR	-	linker	UNP P0AEX9
Y	-16	ALA	-	linker	UNP P0AEX9
Y	-15	VAL	-	linker	UNP P0AEX9
Y	-14	ILE	-	linker	UNP P0AEX9
Y	-13	ASN	-	linker	UNP P0AEX9
Y	-12	ALA	-	linker	UNP P0AEX9
Y	-11	ALA	-	linker	UNP P0AEX9
Y	-10	SER	-	linker	UNP P0AEX9
Y	-9	GLY	-	linker	UNP P0AEX9
Y	-8	ARG	-	linker	UNP P0AEX9
Y	-7	GLN	-	linker	UNP P0AEX9
Y	-6	THR	-	linker	UNP P0AEX9
Y	-5	VAL	-	linker	UNP P0AEX9
Y	-4	ASP	-	linker	UNP P0AEX9
Y	-3	GLU	-	linker	UNP P0AEX9
Y	-2	ALA	-	linker	UNP P0AEX9
Y	-1	LEU	-	linker	UNP P0AEX9
Y	0	LYS	-	linker	UNP P0AEX9
Y	1	ASP	-	linker	UNP P0AEX9
Y	2	ALA	-	linker	UNP P0AEX9
Y	3	GLN	-	linker	UNP P0AEX9
Y	4	THR	-	linker	UNP P0AEX9
Y	5	ASN	-	linker	UNP P0AEX9
Y	6	SER	-	linker	UNP P0AEX9
Y	7	SER	-	linker	UNP P0AEX9
Y	8	SER	-	linker	UNP P0AEX9
Y	9	ASN	-	linker	UNP P0AEX9
Y	10	ASN	-	linker	UNP P0AEX9
Y	11	ASN	-	linker	UNP P0AEX9
Y	12	ASN	-	linker	UNP P0AEX9
Y	13	ASN	-	linker	UNP P0AEX9
Y	14	ASN	-	linker	UNP P0AEX9
Y	15	ASN	-	linker	UNP P0AEX9
Y	16	ASN	-	linker	UNP P0AEX9
Y	17	ASN	-	linker	UNP P0AEX9
Y	18	ASN	-	linker	UNP P0AEX9
Y	19	LEU	-	linker	UNP P0AEX9
Y	20	GLY	-	linker	UNP P0AEX9
Y	21	ILE	-	linker	UNP P0AEX9

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Chain	Residue	Modelled	Actual	Comment	Reference
Y	22	GLU	-	linker	UNP P0AEX9
Y	23	GLU	-	linker	UNP P0AEX9
Y	24	ASN	-	linker	UNP P0AEX9
Y	25	LEU	-	linker	UNP P0AEX9
Y	26	TYR	-	linker	UNP P0AEX9
Y	27	PHE	-	linker	UNP P0AEX9
Y	28	GLN	-	linker	UNP P0AEX9
Y	29	SER	-	linker	UNP P0AEX9
Y	30	ASN	-	linker	UNP P0AEX9
Y	31	ALA	-	linker	UNP P0AEX9
Y	32	THR	-	linker	UNP P0AEX9
Z	-375	MET	-	initiating methionine	UNP P0AEX9
Z	-374	LYS	-	expression tag	UNP P0AEX9
Z	-373	SER	-	expression tag	UNP P0AEX9
Z	-372	SER	-	expression tag	UNP P0AEX9
Z	-371	HIS	-	expression tag	UNP P0AEX9
Z	-370	HIS	-	expression tag	UNP P0AEX9
Z	-369	HIS	-	expression tag	UNP P0AEX9
Z	-368	HIS	-	expression tag	UNP P0AEX9
Z	-367	HIS	-	expression tag	UNP P0AEX9
Z	-366	HIS	-	expression tag	UNP P0AEX9
Z	-365	GLY	-	expression tag	UNP P0AEX9
Z	-364	SER	-	expression tag	UNP P0AEX9
Z	-363	SER	-	expression tag	UNP P0AEX9
Z	-362	MET	-	expression tag	UNP P0AEX9
Z	-26	MET	-	linker	UNP P0AEX9
Z	-25	SER	-	linker	UNP P0AEX9
Z	-24	ALA	-	linker	UNP P0AEX9
Z	-23	PHE	-	linker	UNP P0AEX9
Z	-22	TRP	-	linker	UNP P0AEX9
Z	-21	TYR	-	linker	UNP P0AEX9
Z	-20	ALA	-	linker	UNP P0AEX9
Z	-19	VAL	-	linker	UNP P0AEX9
Z	-18	ARG	-	linker	UNP P0AEX9
Z	-17	THR	-	linker	UNP P0AEX9
Z	-16	ALA	-	linker	UNP P0AEX9
Z	-15	VAL	-	linker	UNP P0AEX9
Z	-14	ILE	-	linker	UNP P0AEX9
Z	-13	ASN	-	linker	UNP P0AEX9
Z	-12	ALA	-	linker	UNP P0AEX9
Z	-11	ALA	-	linker	UNP P0AEX9
Z	-10	SER	-	linker	UNP P0AEX9

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Chain	Residue	Modelled	Actual	Comment	Reference
Z	-9	GLY	-	linker	UNP P0AEX9
Z	-8	ARG	-	linker	UNP P0AEX9
Z	-7	GLN	-	linker	UNP P0AEX9
Z	-6	THR	-	linker	UNP P0AEX9
Z	-5	VAL	-	linker	UNP P0AEX9
Z	-4	ASP	-	linker	UNP P0AEX9
Z	-3	GLU	-	linker	UNP P0AEX9
Z	-2	ALA	-	linker	UNP P0AEX9
Z	-1	LEU	-	linker	UNP P0AEX9
Z	0	LYS	-	linker	UNP P0AEX9
Z	1	ASP	-	linker	UNP P0AEX9
Z	2	ALA	-	linker	UNP P0AEX9
Z	3	GLN	-	linker	UNP P0AEX9
Z	4	THR	-	linker	UNP P0AEX9
Z	5	ASN	-	linker	UNP P0AEX9
Z	6	SER	-	linker	UNP P0AEX9
Z	7	SER	-	linker	UNP P0AEX9
Z	8	SER	-	linker	UNP P0AEX9
Z	9	ASN	-	linker	UNP P0AEX9
Z	10	ASN	-	linker	UNP P0AEX9
Z	11	ASN	-	linker	UNP P0AEX9
Z	12	ASN	-	linker	UNP P0AEX9
Z	13	ASN	-	linker	UNP P0AEX9
Z	14	ASN	-	linker	UNP P0AEX9
Z	15	ASN	-	linker	UNP P0AEX9
Z	16	ASN	-	linker	UNP P0AEX9
Z	17	ASN	-	linker	UNP P0AEX9
Z	18	ASN	-	linker	UNP P0AEX9
Z	19	LEU	-	linker	UNP P0AEX9
Z	20	GLY	-	linker	UNP P0AEX9
Z	21	ILE	-	linker	UNP P0AEX9
Z	22	GLU	-	linker	UNP P0AEX9
Z	23	GLU	-	linker	UNP P0AEX9
Z	24	ASN	-	linker	UNP P0AEX9
Z	25	LEU	-	linker	UNP P0AEX9
Z	26	TYR	-	linker	UNP P0AEX9
Z	27	PHE	-	linker	UNP P0AEX9
Z	28	GLN	-	linker	UNP P0AEX9
Z	29	SER	-	linker	UNP P0AEX9
Z	30	ASN	-	linker	UNP P0AEX9
Z	31	ALA	-	linker	UNP P0AEX9
Z	32	THR	-	linker	UNP P0AEX9

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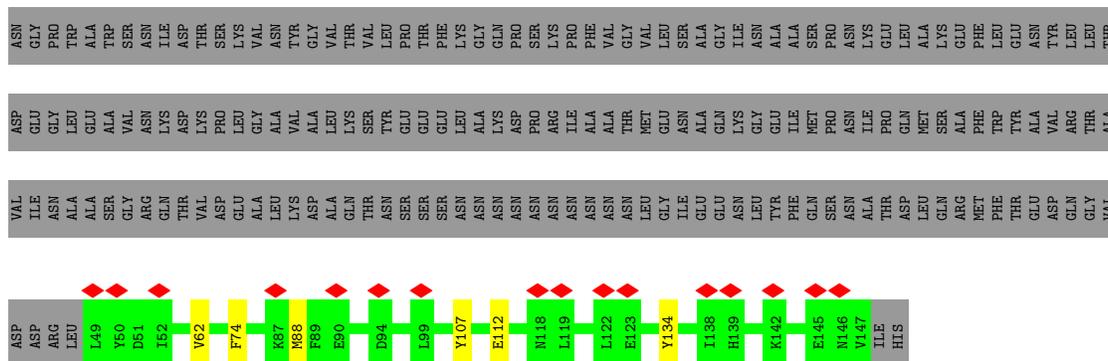
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Chain	Residue	Modelled	Actual	Comment	Reference
AA	-375	MET	-	initiating methionine	UNP P0AEX9
AA	-374	LYS	-	expression tag	UNP P0AEX9
AA	-373	SER	-	expression tag	UNP P0AEX9
AA	-372	SER	-	expression tag	UNP P0AEX9
AA	-371	HIS	-	expression tag	UNP P0AEX9
AA	-370	HIS	-	expression tag	UNP P0AEX9
AA	-369	HIS	-	expression tag	UNP P0AEX9
AA	-368	HIS	-	expression tag	UNP P0AEX9
AA	-367	HIS	-	expression tag	UNP P0AEX9
AA	-366	HIS	-	expression tag	UNP P0AEX9
AA	-365	GLY	-	expression tag	UNP P0AEX9
AA	-364	SER	-	expression tag	UNP P0AEX9
AA	-363	SER	-	expression tag	UNP P0AEX9
AA	-362	MET	-	expression tag	UNP P0AEX9
AA	-26	MET	-	linker	UNP P0AEX9
AA	-25	SER	-	linker	UNP P0AEX9
AA	-24	ALA	-	linker	UNP P0AEX9
AA	-23	PHE	-	linker	UNP P0AEX9
AA	-22	TRP	-	linker	UNP P0AEX9
AA	-21	TYR	-	linker	UNP P0AEX9
AA	-20	ALA	-	linker	UNP P0AEX9
AA	-19	VAL	-	linker	UNP P0AEX9
AA	-18	ARG	-	linker	UNP P0AEX9
AA	-17	THR	-	linker	UNP P0AEX9
AA	-16	ALA	-	linker	UNP P0AEX9
AA	-15	VAL	-	linker	UNP P0AEX9
AA	-14	ILE	-	linker	UNP P0AEX9
AA	-13	ASN	-	linker	UNP P0AEX9
AA	-12	ALA	-	linker	UNP P0AEX9
AA	-11	ALA	-	linker	UNP P0AEX9
AA	-10	SER	-	linker	UNP P0AEX9
AA	-9	GLY	-	linker	UNP P0AEX9
AA	-8	ARG	-	linker	UNP P0AEX9
AA	-7	GLN	-	linker	UNP P0AEX9
AA	-6	THR	-	linker	UNP P0AEX9
AA	-5	VAL	-	linker	UNP P0AEX9
AA	-4	ASP	-	linker	UNP P0AEX9
AA	-3	GLU	-	linker	UNP P0AEX9
AA	-2	ALA	-	linker	UNP P0AEX9
AA	-1	LEU	-	linker	UNP P0AEX9
AA	0	LYS	-	linker	UNP P0AEX9
AA	1	ASP	-	linker	UNP P0AEX9

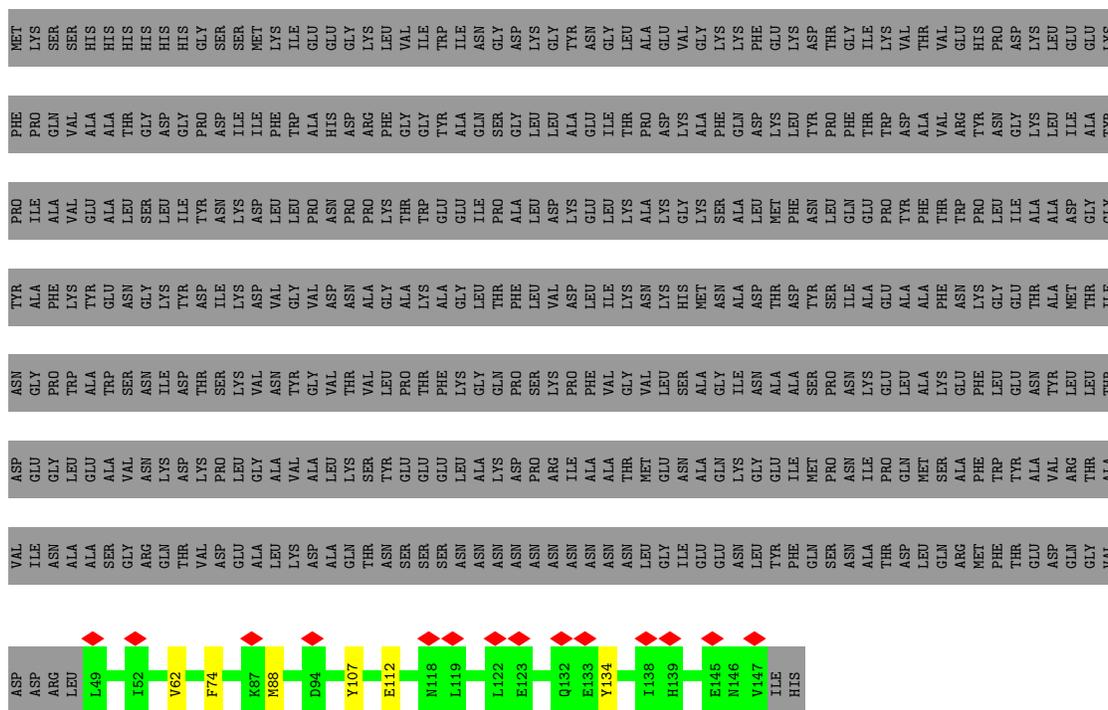
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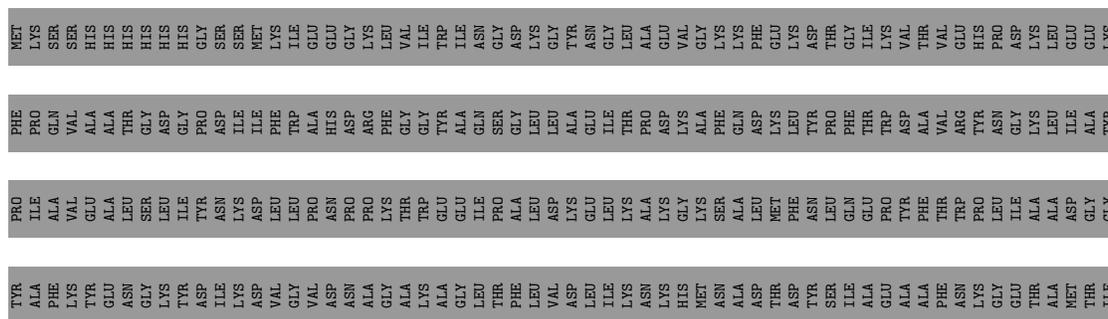
Chain	Residue	Modelled	Actual	Comment	Reference
AA	2	ALA	-	linker	UNP P0AEX9
AA	3	GLN	-	linker	UNP P0AEX9
AA	4	THR	-	linker	UNP P0AEX9
AA	5	ASN	-	linker	UNP P0AEX9
AA	6	SER	-	linker	UNP P0AEX9
AA	7	SER	-	linker	UNP P0AEX9
AA	8	SER	-	linker	UNP P0AEX9
AA	9	ASN	-	linker	UNP P0AEX9
AA	10	ASN	-	linker	UNP P0AEX9
AA	11	ASN	-	linker	UNP P0AEX9
AA	12	ASN	-	linker	UNP P0AEX9
AA	13	ASN	-	linker	UNP P0AEX9
AA	14	ASN	-	linker	UNP P0AEX9
AA	15	ASN	-	linker	UNP P0AEX9
AA	16	ASN	-	linker	UNP P0AEX9
AA	17	ASN	-	linker	UNP P0AEX9
AA	18	ASN	-	linker	UNP P0AEX9
AA	19	LEU	-	linker	UNP P0AEX9
AA	20	GLY	-	linker	UNP P0AEX9
AA	21	ILE	-	linker	UNP P0AEX9
AA	22	GLU	-	linker	UNP P0AEX9
AA	23	GLU	-	linker	UNP P0AEX9
AA	24	ASN	-	linker	UNP P0AEX9
AA	25	LEU	-	linker	UNP P0AEX9
AA	26	TYR	-	linker	UNP P0AEX9
AA	27	PHE	-	linker	UNP P0AEX9
AA	28	GLN	-	linker	UNP P0AEX9
AA	29	SER	-	linker	UNP P0AEX9
AA	30	ASN	-	linker	UNP P0AEX9
AA	31	ALA	-	linker	UNP P0AEX9
AA	32	THR	-	linker	UNP P0AEX9

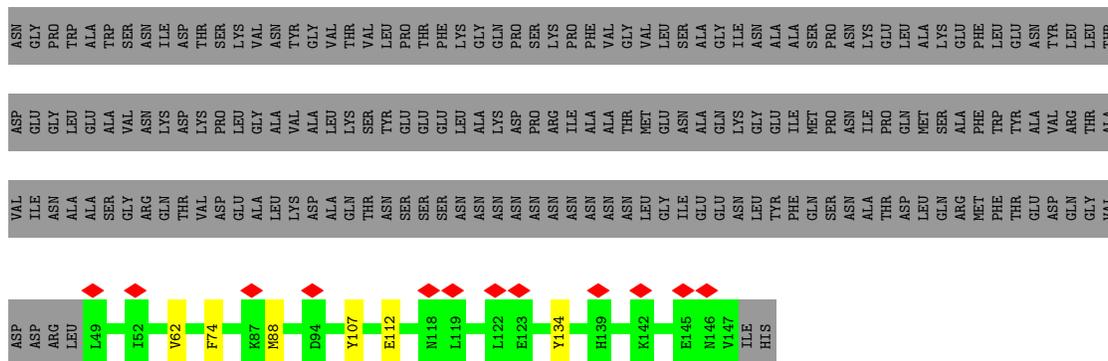


● Molecule 1: Maltose/maltodextrin-binding periplasmic protein,Nuclear autoantigen Sp-100

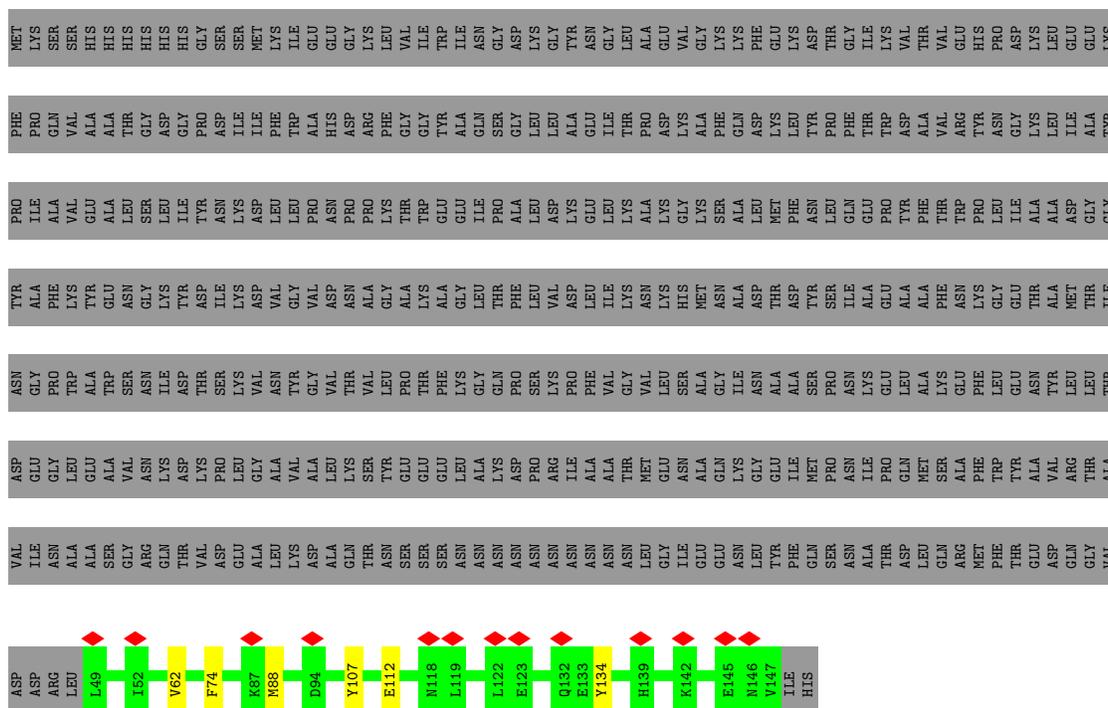


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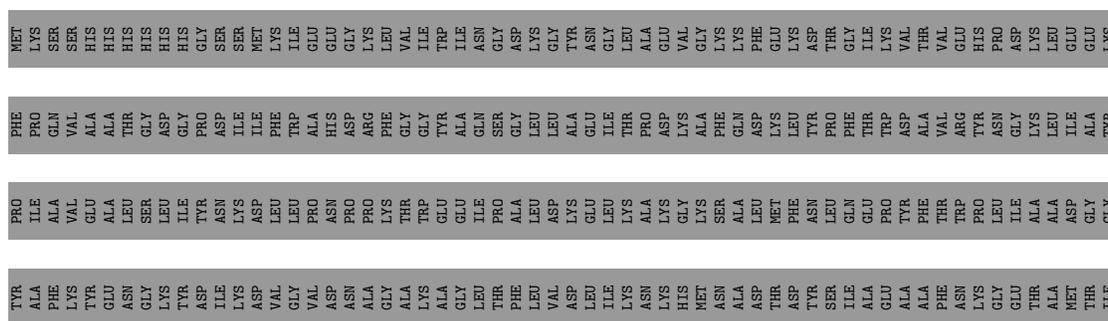


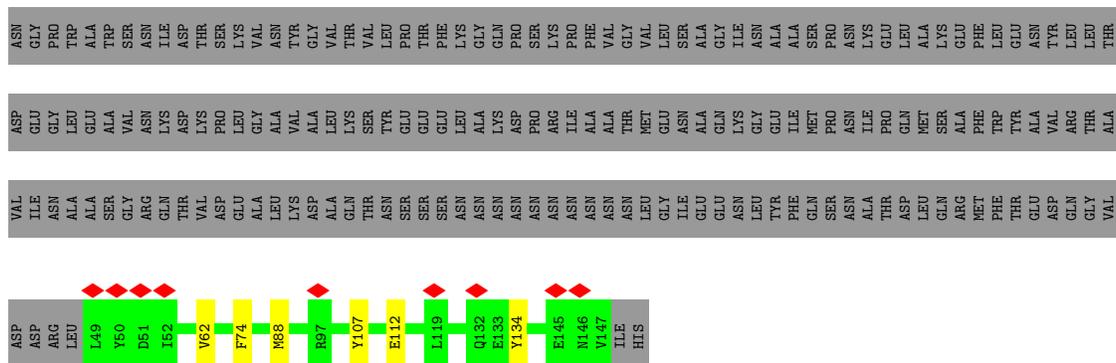


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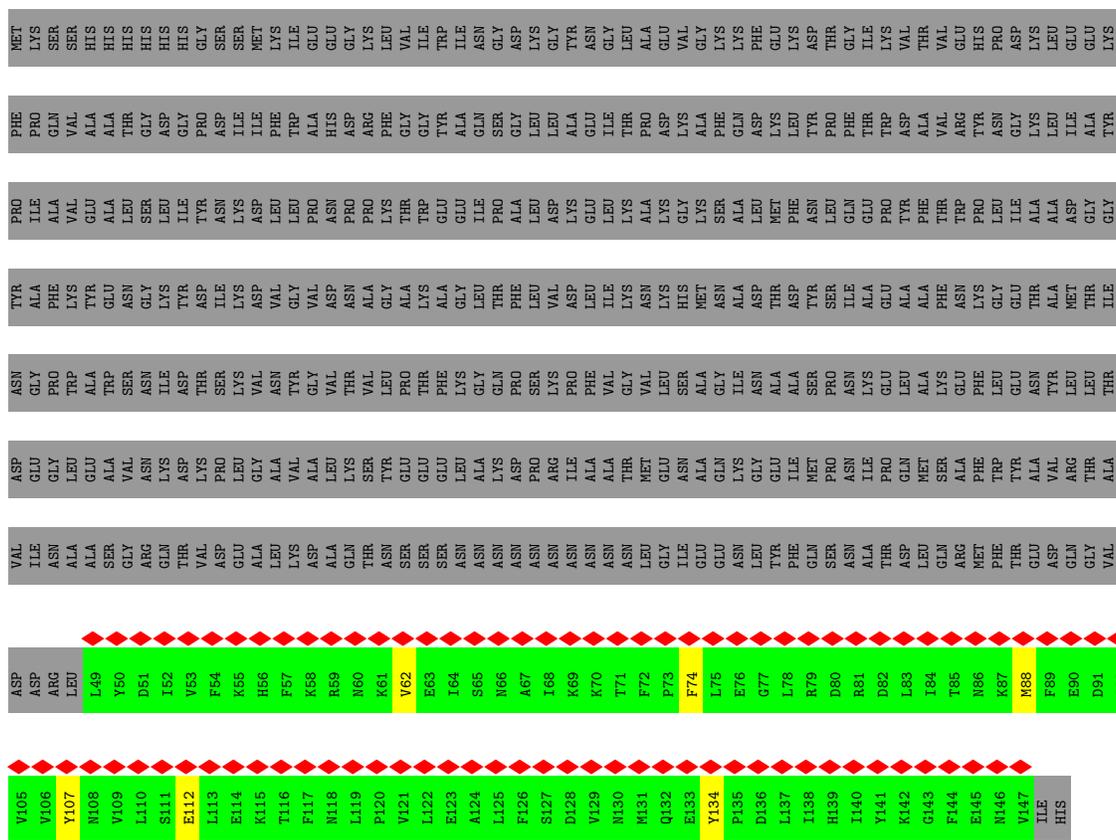


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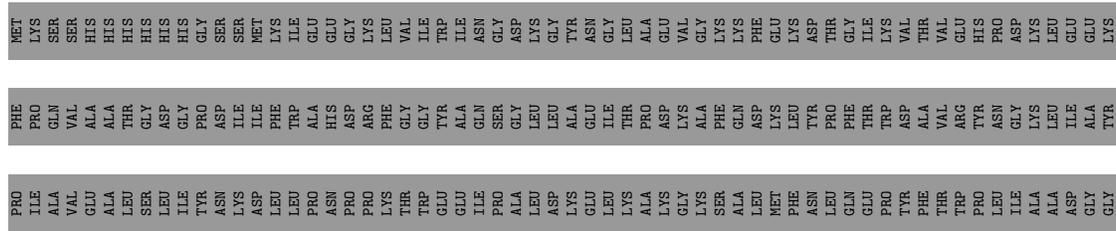


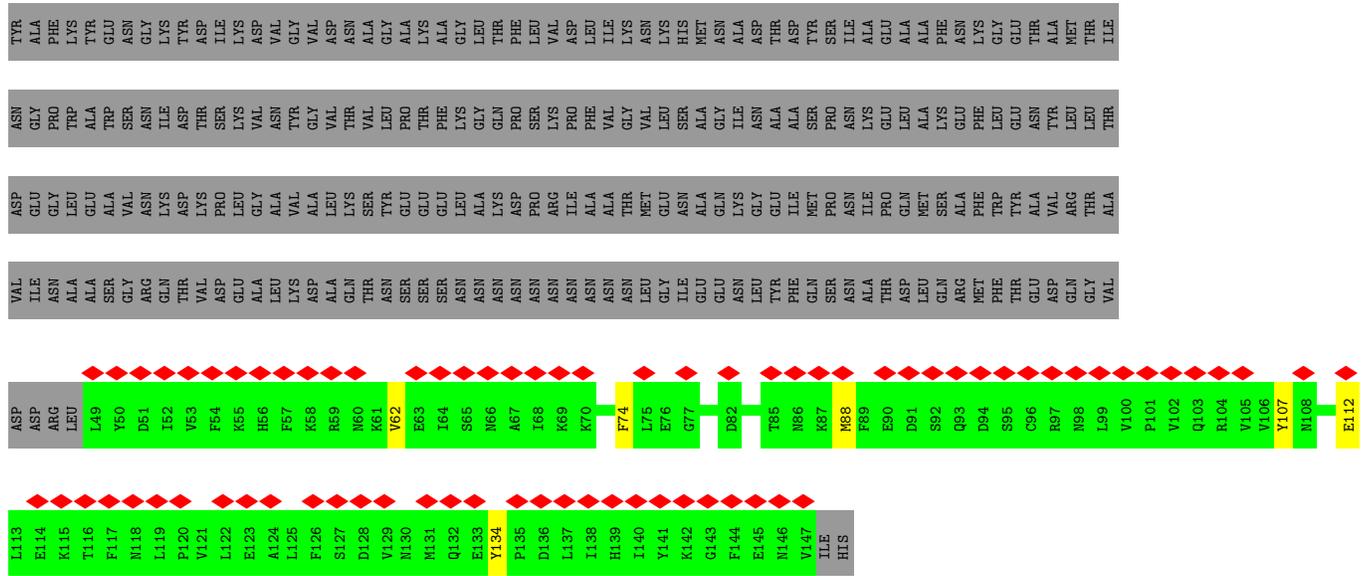


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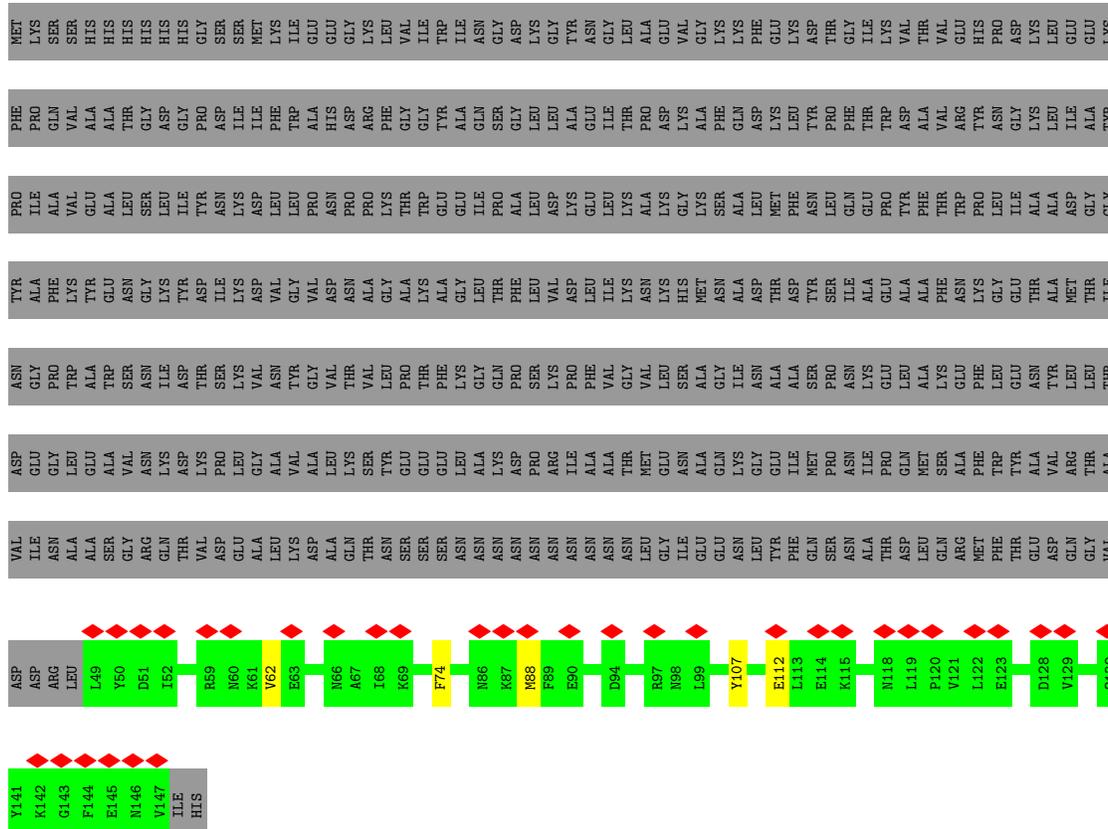


● Molecule 1: Maltose/maltodextrin-binding periplasmic protein, Nuclear autoantigen Sp-100



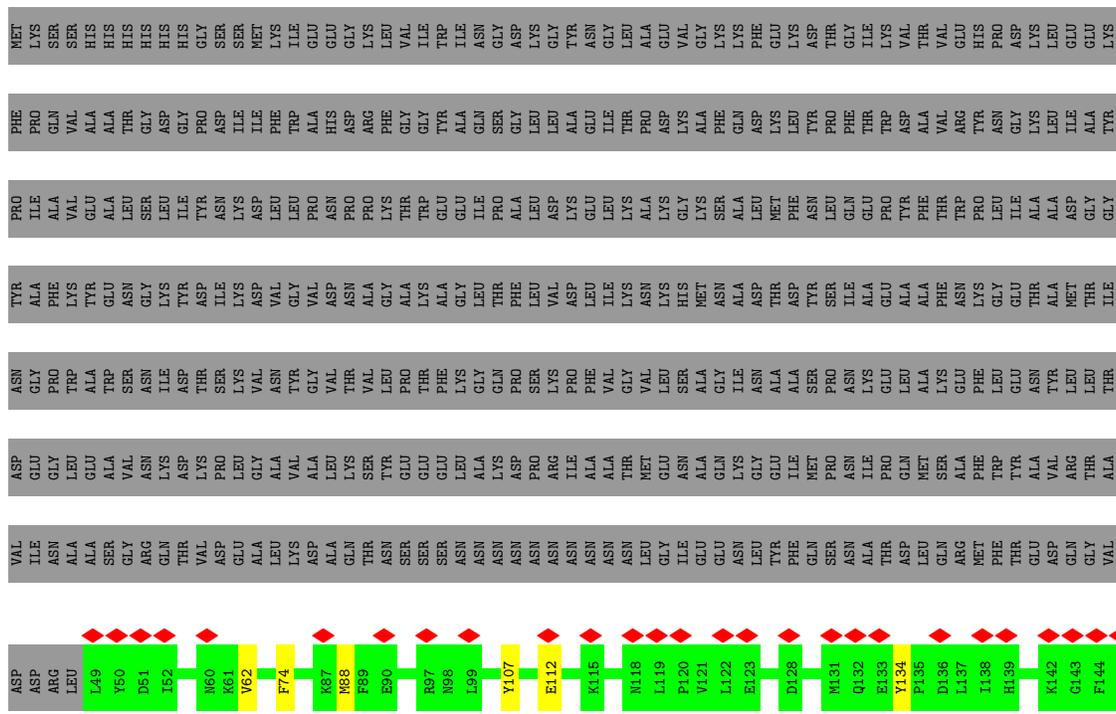


● Molecule 1: Maltose/maltodextrin-binding periplasmic protein,Nuclear autoantigen Sp-100

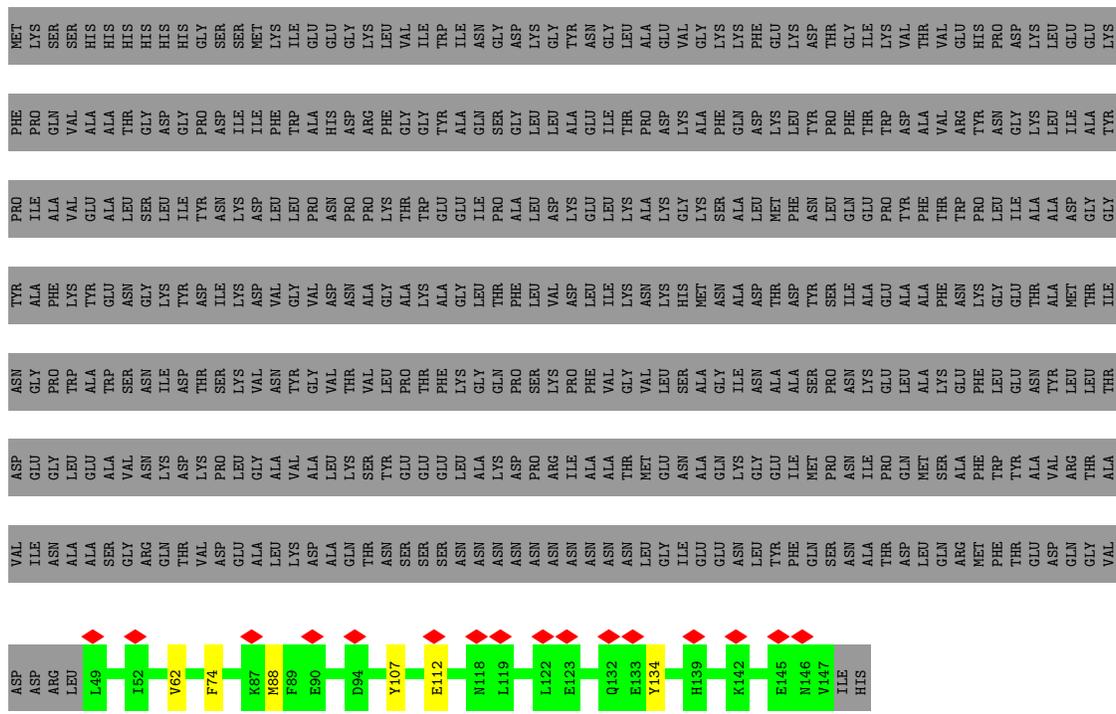


● Molecule 1: Maltose/maltodextrin-binding periplasmic protein,Nuclear autoantigen Sp-100





● Molecule 1: Maltose/maltodextrin-binding periplasmic protein,Nuclear autoantigen Sp-100



● Molecule 1: Maltose/maltodextrin-binding periplasmic protein,Nuclear autoantigen Sp-100



4 Experimental information

Property	Value	Source
EM reconstruction method	HELICAL	Depositor
Imposed symmetry	HELICAL, twist=46.4°, rise=19.8 Å, axial sym=C1	Depositor
Number of segments used	296140	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	TFS KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{Å}^2$)	64	Depositor
Minimum defocus (nm)	1000	Depositor
Maximum defocus (nm)	3000	Depositor
Magnification	165000	Depositor
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	0.800	Depositor
Minimum map value	-0.532	Depositor
Average map value	0.001	Depositor
Map value standard deviation	0.021	Depositor
Recommended contour level	0.16	Depositor
Map size (Å)	302.4, 302.4, 302.4	wwPDB
Map dimensions	360, 360, 360	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.84, 0.84, 0.84	Depositor

5 Model quality [i](#)

5.1 Standard geometry [i](#)

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).

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
1	A	0.10	0/844	0.22	0/1139
1	AA	0.10	0/844	0.22	0/1139
1	B	0.11	0/844	0.22	0/1139
1	C	0.10	0/844	0.22	0/1139
1	D	0.10	0/844	0.22	0/1139
1	E	0.10	0/844	0.22	0/1139
1	F	0.10	0/844	0.22	0/1139
1	G	0.10	0/844	0.22	0/1139
1	H	0.11	0/844	0.22	0/1139
1	I	0.10	0/844	0.22	0/1139
1	J	0.10	0/844	0.22	0/1139
1	K	0.10	0/844	0.22	0/1139
1	L	0.10	0/844	0.22	0/1139
1	M	0.10	0/844	0.22	0/1139
1	N	0.10	0/844	0.22	0/1139
1	O	0.10	0/844	0.22	0/1139
1	P	0.10	0/844	0.22	0/1139
1	Q	0.10	0/844	0.22	0/1139
1	R	0.10	0/844	0.22	0/1139
1	S	0.10	0/844	0.22	0/1139
1	T	0.10	0/844	0.22	0/1139
1	V	0.10	0/844	0.22	0/1139
1	W	0.10	0/844	0.22	0/1139
1	X	0.10	0/844	0.22	0/1139
1	Y	0.10	0/844	0.22	0/1139
1	Z	0.10	0/844	0.22	0/1139
All	All	0.10	0/21944	0.22	0/29614

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 [i](#)

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	A	827	0	828	3	0
1	AA	827	0	828	3	0
1	B	827	0	828	3	0
1	C	827	0	828	3	0
1	D	827	0	828	3	0
1	E	827	0	828	3	0
1	F	827	0	828	3	0
1	G	827	0	828	3	0
1	H	827	0	828	3	0
1	I	827	0	828	3	0
1	J	827	0	828	3	0
1	K	827	0	828	3	0
1	L	827	0	828	3	0
1	M	827	0	828	3	0
1	N	827	0	828	3	0
1	O	827	0	828	3	0
1	P	827	0	828	3	0
1	Q	827	0	828	3	0
1	R	827	0	828	3	0
1	S	827	0	828	3	0
1	T	827	0	828	3	0
1	V	827	0	828	3	0
1	W	827	0	828	3	0
1	X	827	0	828	3	0
1	Y	827	0	828	3	0
1	Z	827	0	828	3	0
All	All	21502	0	21528	78	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 2.

All (78) 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:S:88:MET:HE3	1:S:112:GLU:HG3	1.85	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:88:MET:HE3	1:I:112:GLU:HG3	1.85	0.59
1:X:88:MET:HE3	1:X:112:GLU:HG3	1.84	0.59
1:B:88:MET:HE3	1:B:112:GLU:HG3	1.85	0.59
1:H:88:MET:HE3	1:H:112:GLU:HG3	1.85	0.59
1:D:88:MET:HE3	1:D:112:GLU:HG3	1.85	0.58
1:C:88:MET:HE3	1:C:112:GLU:HG3	1.85	0.58
1:P:88:MET:HE3	1:P:112:GLU:HG3	1.84	0.58
1:Z:88:MET:HE3	1:Z:112:GLU:HG3	1.85	0.58
1:L:88:MET:HE3	1:L:112:GLU:HG3	1.85	0.58
1:O:88:MET:HE3	1:O:112:GLU:HG3	1.85	0.58
1:J:88:MET:HE3	1:J:112:GLU:HG3	1.85	0.58
1:M:88:MET:HE3	1:M:112:GLU:HG3	1.85	0.58
1:N:88:MET:HE3	1:N:112:GLU:HG3	1.85	0.58
1:T:88:MET:HE3	1:T:112:GLU:HG3	1.85	0.58
1:AA:88:MET:HE3	1:AA:112:GLU:HG3	1.85	0.58
1:W:88:MET:HE3	1:W:112:GLU:HG3	1.85	0.58
1:G:88:MET:HE3	1:G:112:GLU:HG3	1.85	0.58
1:Q:88:MET:HE3	1:Q:112:GLU:HG3	1.85	0.58
1:F:88:MET:HE3	1:F:112:GLU:HG3	1.85	0.58
1:R:88:MET:HE3	1:R:112:GLU:HG3	1.85	0.58
1:K:88:MET:HE3	1:K:112:GLU:HG3	1.85	0.58
1:V:88:MET:HE3	1:V:112:GLU:HG3	1.85	0.57
1:A:88:MET:HE3	1:A:112:GLU:HG3	1.85	0.57
1:Y:88:MET:HE3	1:Y:112:GLU:HG3	1.85	0.57
1:E:88:MET:HE3	1:E:112:GLU:HG3	1.85	0.57
1:F:74:PHE:HB2	1:F:134:TYR:HE2	1.79	0.48
1:J:74:PHE:HB2	1:J:134:TYR:HE2	1.79	0.47
1:R:74:PHE:HB2	1:R:134:TYR:HE2	1.79	0.47
1:Y:74:PHE:HB2	1:Y:134:TYR:HE2	1.79	0.47
1:AA:74:PHE:HB2	1:AA:134:TYR:HE2	1.80	0.47
1:A:74:PHE:HB2	1:A:134:TYR:HE2	1.79	0.47
1:B:74:PHE:HB2	1:B:134:TYR:HE2	1.79	0.47
1:I:74:PHE:HB2	1:I:134:TYR:HE2	1.79	0.47
1:M:74:PHE:HB2	1:M:134:TYR:HE2	1.80	0.47
1:Q:74:PHE:HB2	1:Q:134:TYR:HE2	1.79	0.47
1:K:74:PHE:HB2	1:K:134:TYR:HE2	1.79	0.47
1:O:74:PHE:HB2	1:O:134:TYR:HE2	1.80	0.47
1:V:74:PHE:HB2	1:V:134:TYR:HE2	1.79	0.47
1:W:74:PHE:HB2	1:W:134:TYR:HE2	1.79	0.47
1:T:74:PHE:HB2	1:T:134:TYR:HE2	1.79	0.47
1:G:74:PHE:HB2	1:G:134:TYR:HE2	1.80	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:74:PHE:HB2	1:H:134:TYR:HE2	1.79	0.47
1:L:74:PHE:HB2	1:L:134:TYR:HE2	1.79	0.46
1:Z:74:PHE:HB2	1:Z:134:TYR:HE2	1.80	0.46
1:N:74:PHE:HB2	1:N:134:TYR:HE2	1.79	0.46
1:E:74:PHE:HB2	1:E:134:TYR:HE2	1.79	0.46
1:X:74:PHE:HB2	1:X:134:TYR:HE2	1.79	0.46
1:P:74:PHE:HB2	1:P:134:TYR:HE2	1.79	0.46
1:S:74:PHE:HB2	1:S:134:TYR:HE2	1.79	0.46
1:C:74:PHE:HB2	1:C:134:TYR:HE2	1.80	0.46
1:D:74:PHE:HB2	1:D:134:TYR:HE2	1.79	0.46
1:D:62:VAL:HG22	1:D:107:TYR:HE2	1.83	0.44
1:V:62:VAL:HG22	1:V:107:TYR:HE2	1.83	0.44
1:T:62:VAL:HG22	1:T:107:TYR:HE2	1.82	0.44
1:C:62:VAL:HG22	1:C:107:TYR:HE2	1.82	0.44
1:J:62:VAL:HG22	1:J:107:TYR:HE2	1.82	0.44
1:E:62:VAL:HG22	1:E:107:TYR:HE2	1.82	0.44
1:H:62:VAL:HG22	1:H:107:TYR:HE2	1.82	0.44
1:Z:62:VAL:HG22	1:Z:107:TYR:HE2	1.82	0.44
1:Y:62:VAL:HG22	1:Y:107:TYR:HE2	1.82	0.44
1:I:62:VAL:HG22	1:I:107:TYR:HE2	1.82	0.44
1:W:62:VAL:HG22	1:W:107:TYR:HE2	1.82	0.44
1:G:62:VAL:HG22	1:G:107:TYR:HE2	1.82	0.43
1:N:62:VAL:HG22	1:N:107:TYR:HE2	1.82	0.43
1:B:62:VAL:HG22	1:B:107:TYR:HE2	1.82	0.43
1:L:62:VAL:HG22	1:L:107:TYR:HE2	1.82	0.43
1:M:62:VAL:HG22	1:M:107:TYR:HE2	1.82	0.43
1:P:62:VAL:HG22	1:P:107:TYR:HE2	1.82	0.43
1:R:62:VAL:HG22	1:R:107:TYR:HE2	1.82	0.43
1:K:62:VAL:HG22	1:K:107:TYR:HE2	1.82	0.43
1:O:62:VAL:HG22	1:O:107:TYR:HE2	1.82	0.43
1:AA:62:VAL:HG22	1:AA:107:TYR:HE2	1.82	0.43
1:Q:62:VAL:HG22	1:Q:107:TYR:HE2	1.82	0.43
1:S:62:VAL:HG22	1:S:107:TYR:HE2	1.82	0.43
1:X:62:VAL:HG22	1:X:107:TYR:HE2	1.82	0.43
1:A:62:VAL:HG22	1:A:107:TYR:HE2	1.82	0.42
1:F:62:VAL:HG22	1:F:107:TYR:HE2	1.82	0.42

There are no symmetry-related clashes.

5.3 Torsion angles

5.3.1 Protein backbone

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all PDB entries followed by that with respect to all EM entries.

The Analysed column shows the number of residues for which the backbone conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	97/525 (18%)	96 (99%)	1 (1%)	0	100	100
1	AA	97/525 (18%)	96 (99%)	1 (1%)	0	100	100
1	B	97/525 (18%)	96 (99%)	1 (1%)	0	100	100
1	C	97/525 (18%)	96 (99%)	1 (1%)	0	100	100
1	D	97/525 (18%)	96 (99%)	1 (1%)	0	100	100
1	E	97/525 (18%)	96 (99%)	1 (1%)	0	100	100
1	F	97/525 (18%)	96 (99%)	1 (1%)	0	100	100
1	G	97/525 (18%)	96 (99%)	1 (1%)	0	100	100
1	H	97/525 (18%)	96 (99%)	1 (1%)	0	100	100
1	I	97/525 (18%)	96 (99%)	1 (1%)	0	100	100
1	J	97/525 (18%)	96 (99%)	1 (1%)	0	100	100
1	K	97/525 (18%)	96 (99%)	1 (1%)	0	100	100
1	L	97/525 (18%)	96 (99%)	1 (1%)	0	100	100
1	M	97/525 (18%)	96 (99%)	1 (1%)	0	100	100
1	N	97/525 (18%)	96 (99%)	1 (1%)	0	100	100
1	O	97/525 (18%)	96 (99%)	1 (1%)	0	100	100
1	P	97/525 (18%)	96 (99%)	1 (1%)	0	100	100
1	Q	97/525 (18%)	96 (99%)	1 (1%)	0	100	100
1	R	97/525 (18%)	96 (99%)	1 (1%)	0	100	100
1	S	97/525 (18%)	96 (99%)	1 (1%)	0	100	100
1	T	97/525 (18%)	96 (99%)	1 (1%)	0	100	100
1	V	97/525 (18%)	96 (99%)	1 (1%)	0	100	100
1	W	97/525 (18%)	96 (99%)	1 (1%)	0	100	100
1	X	97/525 (18%)	96 (99%)	1 (1%)	0	100	100
1	Y	97/525 (18%)	96 (99%)	1 (1%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	Z	97/525 (18%)	96 (99%)	1 (1%)	0	100	100
All	All	2522/13650 (18%)	2496 (99%)	26 (1%)	0	100	100

There are no Ramachandran outliers to report.

5.3.2 Protein sidechains [i](#)

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all PDB entries followed by that with respect to all EM entries.

The Analysed column shows the number of residues for which the sidechain conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	95/444 (21%)	95 (100%)	0	100	100
1	AA	95/444 (21%)	95 (100%)	0	100	100
1	B	95/444 (21%)	95 (100%)	0	100	100
1	C	95/444 (21%)	95 (100%)	0	100	100
1	D	95/444 (21%)	95 (100%)	0	100	100
1	E	95/444 (21%)	95 (100%)	0	100	100
1	F	95/444 (21%)	95 (100%)	0	100	100
1	G	95/444 (21%)	95 (100%)	0	100	100
1	H	95/444 (21%)	95 (100%)	0	100	100
1	I	95/444 (21%)	95 (100%)	0	100	100
1	J	95/444 (21%)	95 (100%)	0	100	100
1	K	95/444 (21%)	95 (100%)	0	100	100
1	L	95/444 (21%)	95 (100%)	0	100	100
1	M	95/444 (21%)	95 (100%)	0	100	100
1	N	95/444 (21%)	95 (100%)	0	100	100
1	O	95/444 (21%)	95 (100%)	0	100	100
1	P	95/444 (21%)	95 (100%)	0	100	100
1	Q	95/444 (21%)	95 (100%)	0	100	100
1	R	95/444 (21%)	95 (100%)	0	100	100
1	S	95/444 (21%)	95 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	T	95/444 (21%)	95 (100%)	0	100	100
1	V	95/444 (21%)	95 (100%)	0	100	100
1	W	95/444 (21%)	95 (100%)	0	100	100
1	X	95/444 (21%)	95 (100%)	0	100	100
1	Y	95/444 (21%)	95 (100%)	0	100	100
1	Z	95/444 (21%)	95 (100%)	0	100	100
All	All	2470/11544 (21%)	2470 (100%)	0	100	100

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

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (14) such sidechains are listed below:

Mol	Chain	Res	Type
1	C	139	HIS
1	I	139	HIS
1	J	139	HIS
1	K	139	HIS
1	M	139	HIS
1	N	139	HIS
1	O	139	HIS
1	P	139	HIS
1	Q	139	HIS
1	T	139	HIS
1	V	139	HIS
1	W	139	HIS
1	Y	139	HIS
1	AA	139	HIS

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

5.4 Non-standard residues in protein, DNA, RNA chains [i](#)

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

5.5 Carbohydrates [i](#)

There are no oligosaccharides 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.

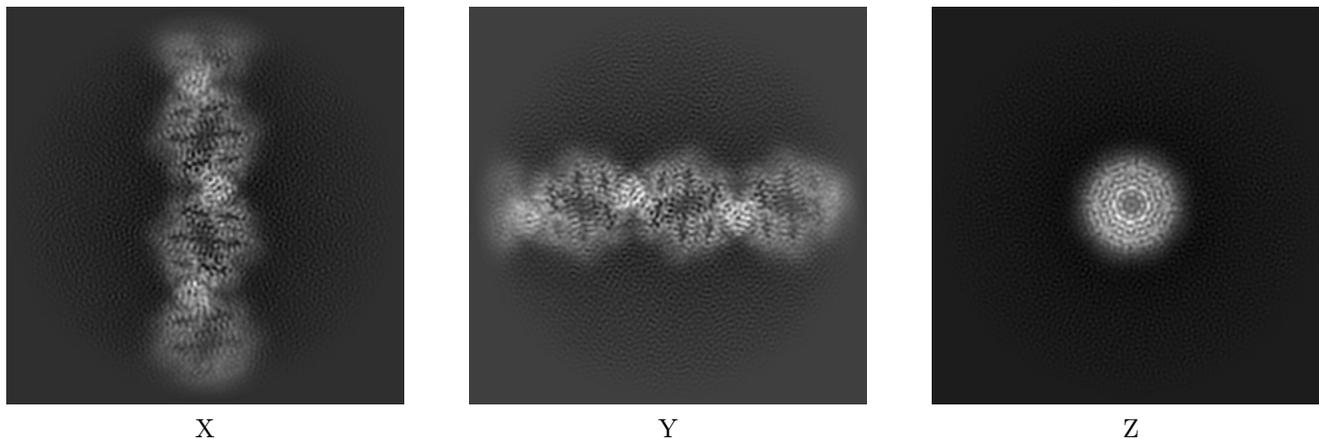
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-56096. These allow visual inspection of the internal detail of the map and identification of artifacts.

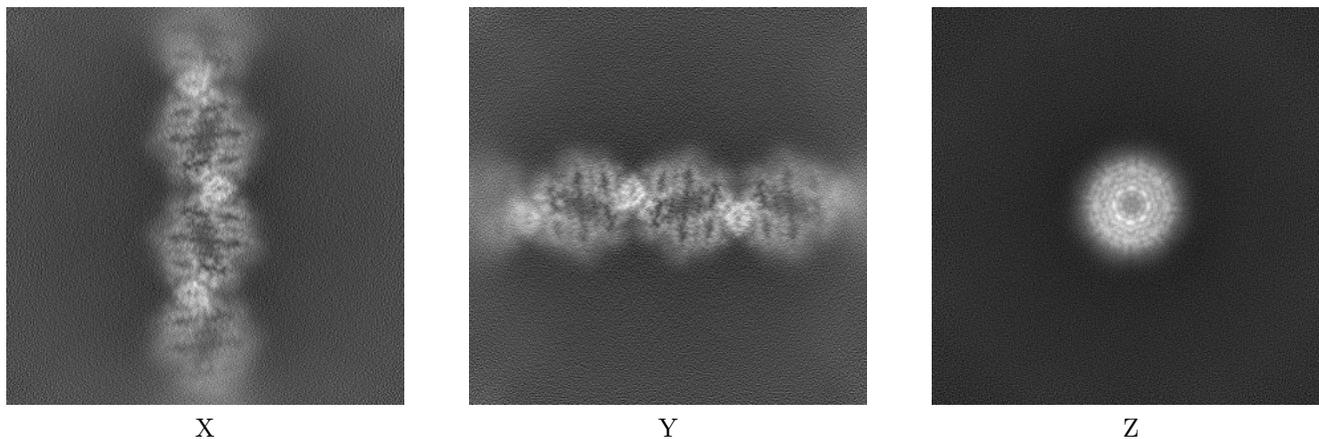
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

6.1.1 Primary map



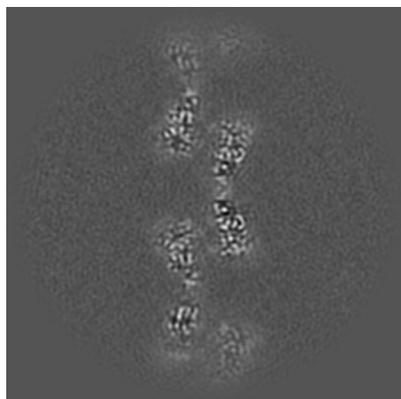
6.1.2 Raw map



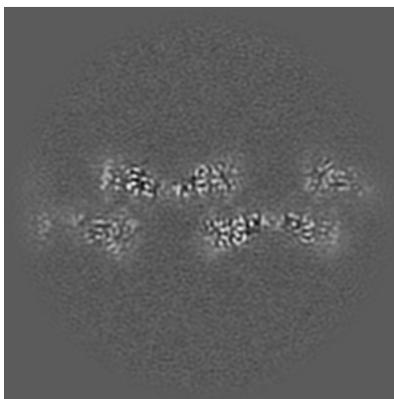
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

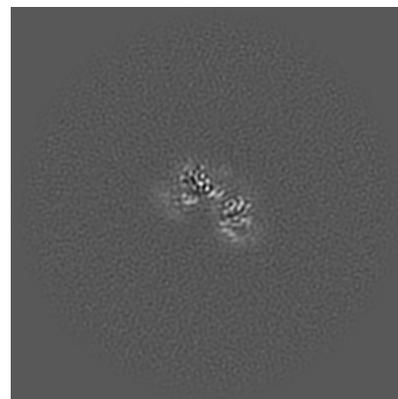
6.2.1 Primary map



X Index: 180

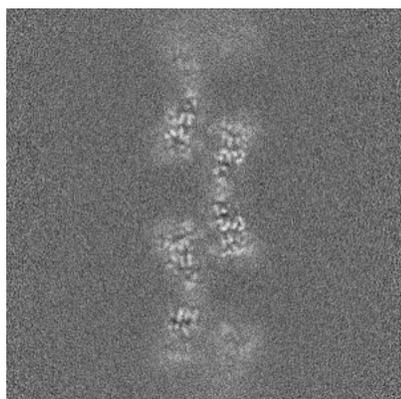


Y Index: 180

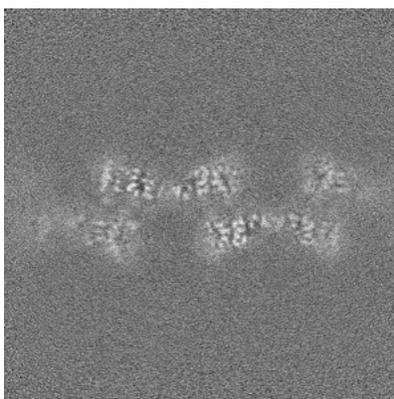


Z Index: 180

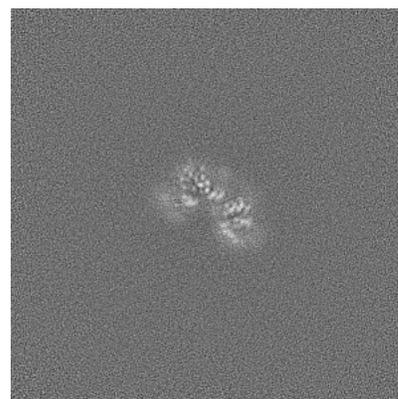
6.2.2 Raw map



X Index: 180



Y Index: 180

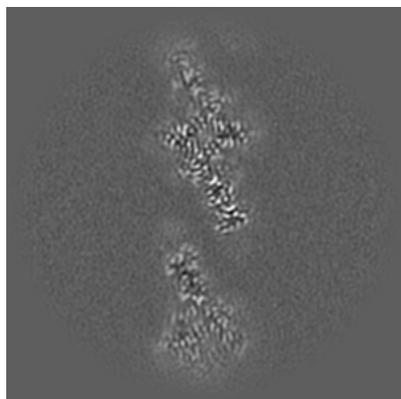


Z Index: 180

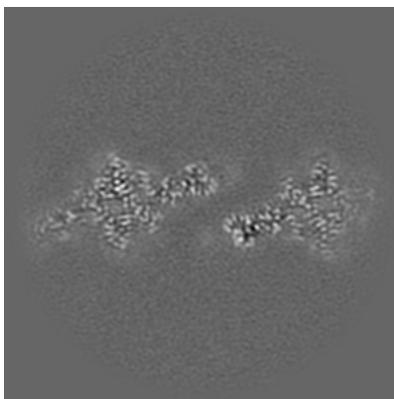
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

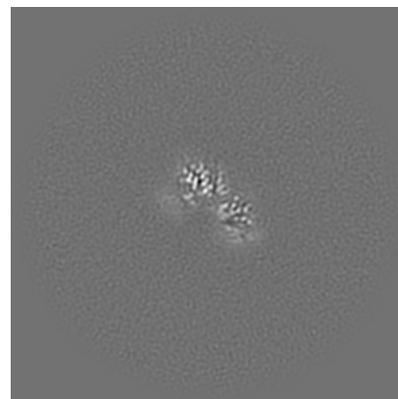
6.3.1 Primary map



X Index: 167

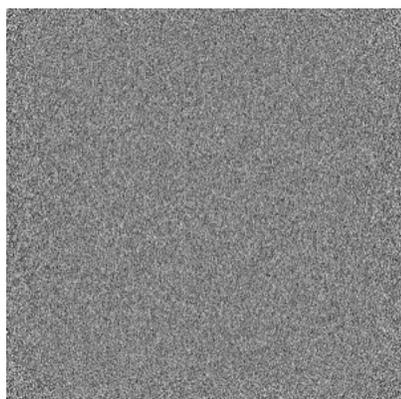


Y Index: 169

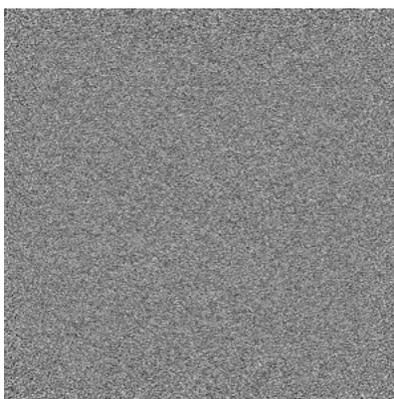


Z Index: 177

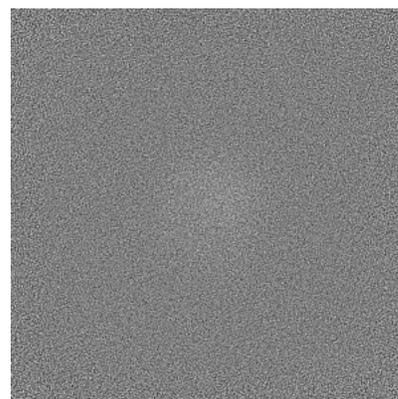
6.3.2 Raw map



X Index: 0



Y Index: 0

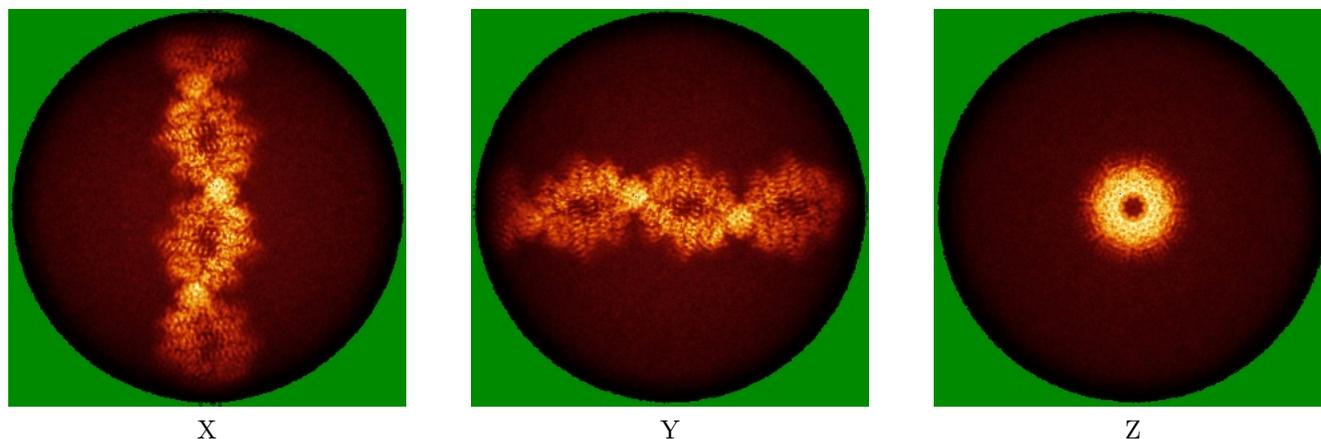


Z Index: 0

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

6.4 Orthogonal standard-deviation projections (False-color) [i](#)

6.4.1 Primary map

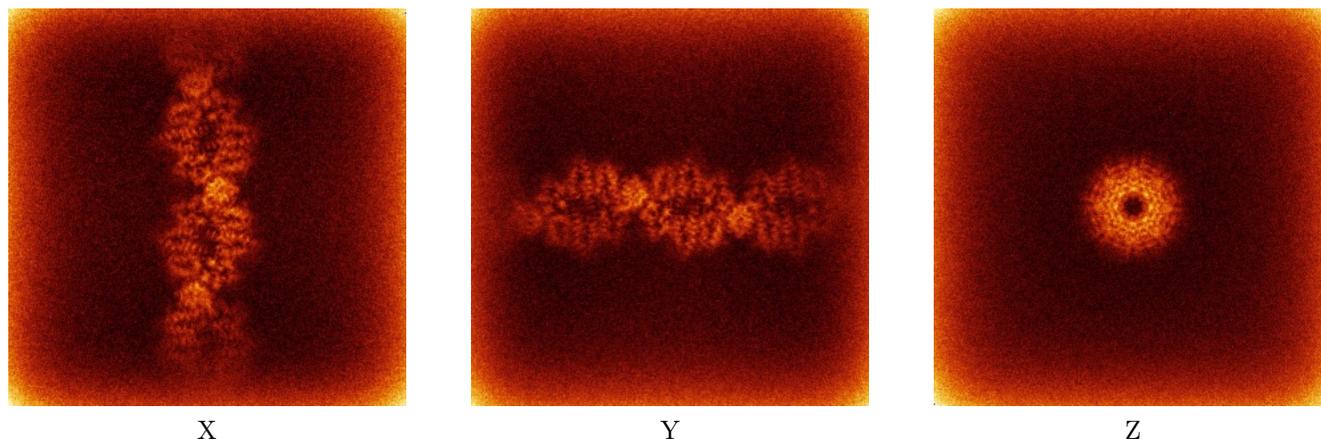


X

Y

Z

6.4.2 Raw map



X

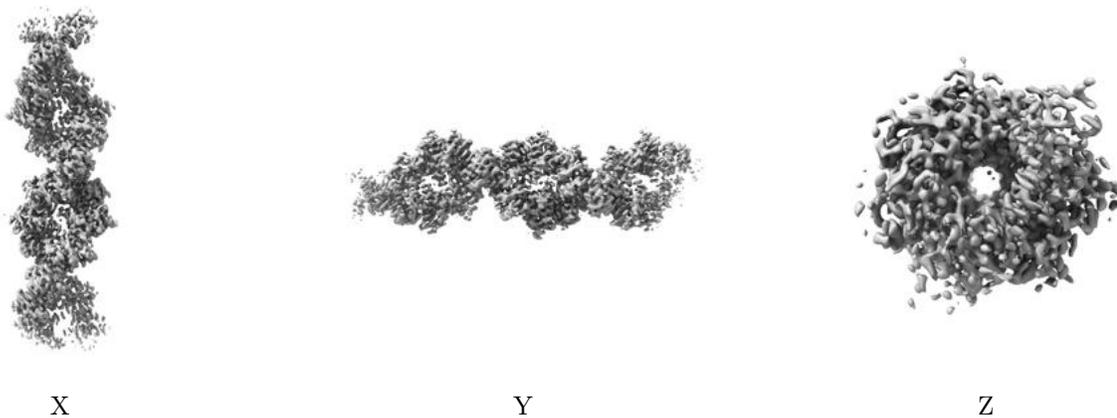
Y

Z

The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

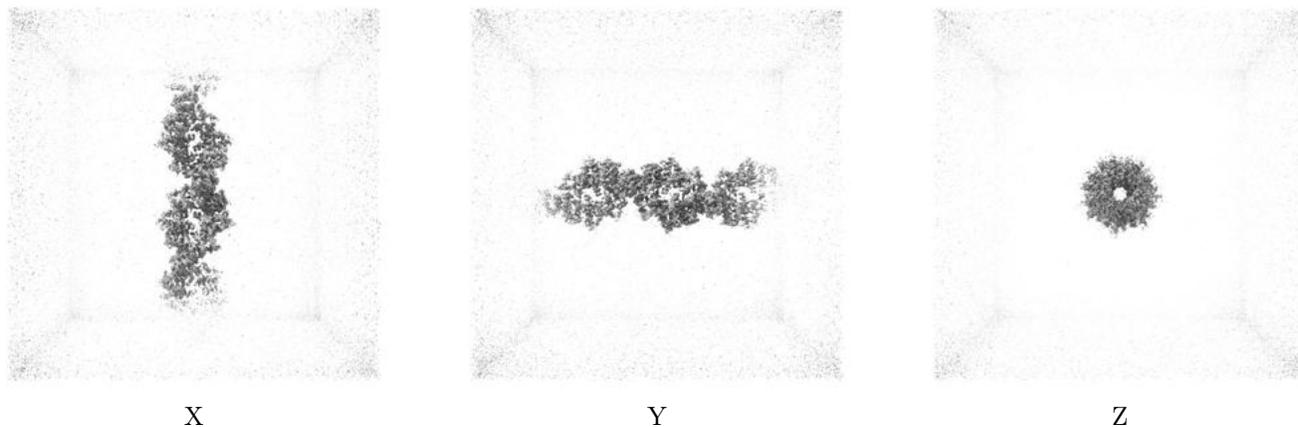
6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.16. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map



These images show the 3D surface of the raw map. The raw map's contour level was selected so that its surface encloses the same volume as the primary map does at its recommended contour level.

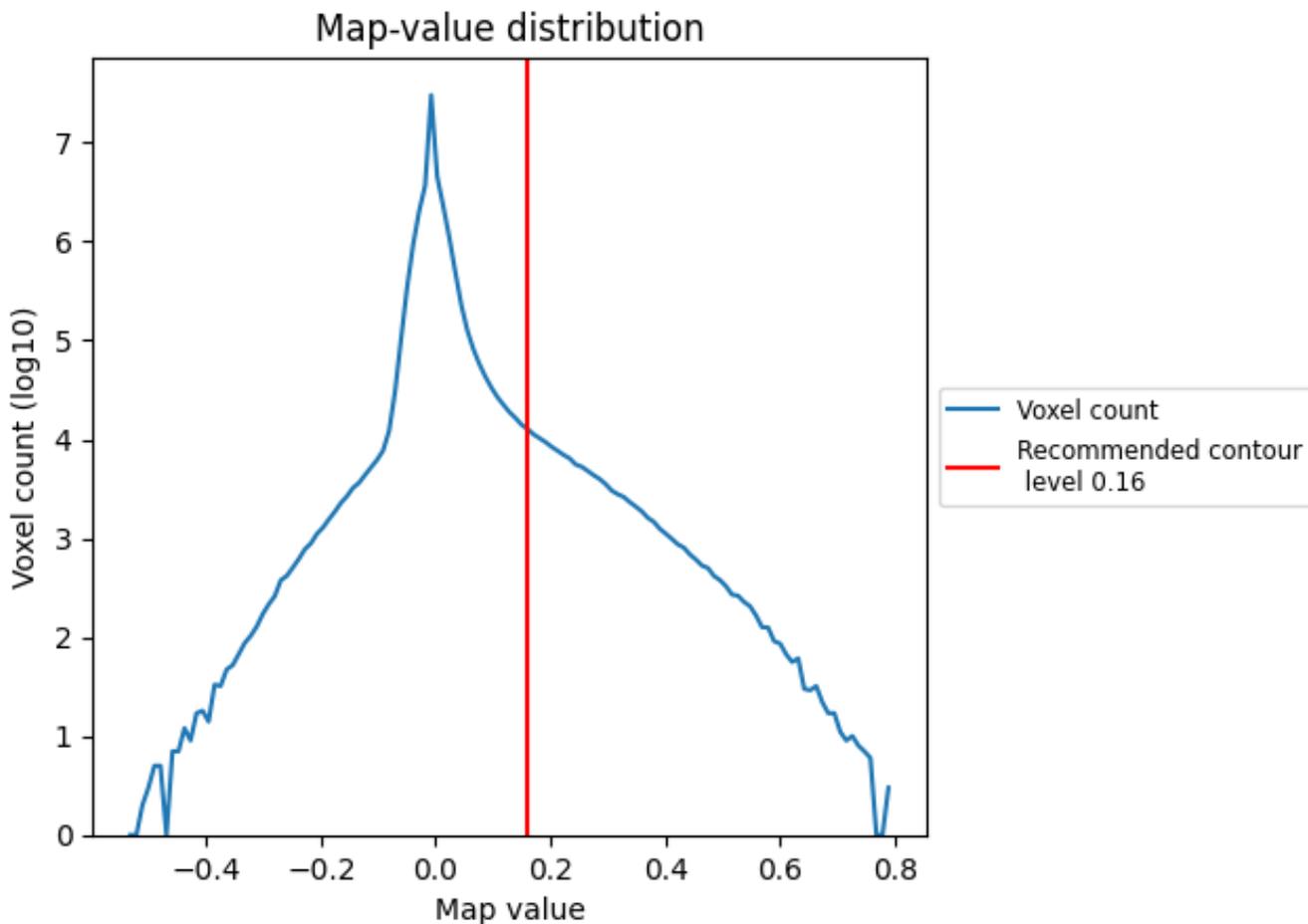
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

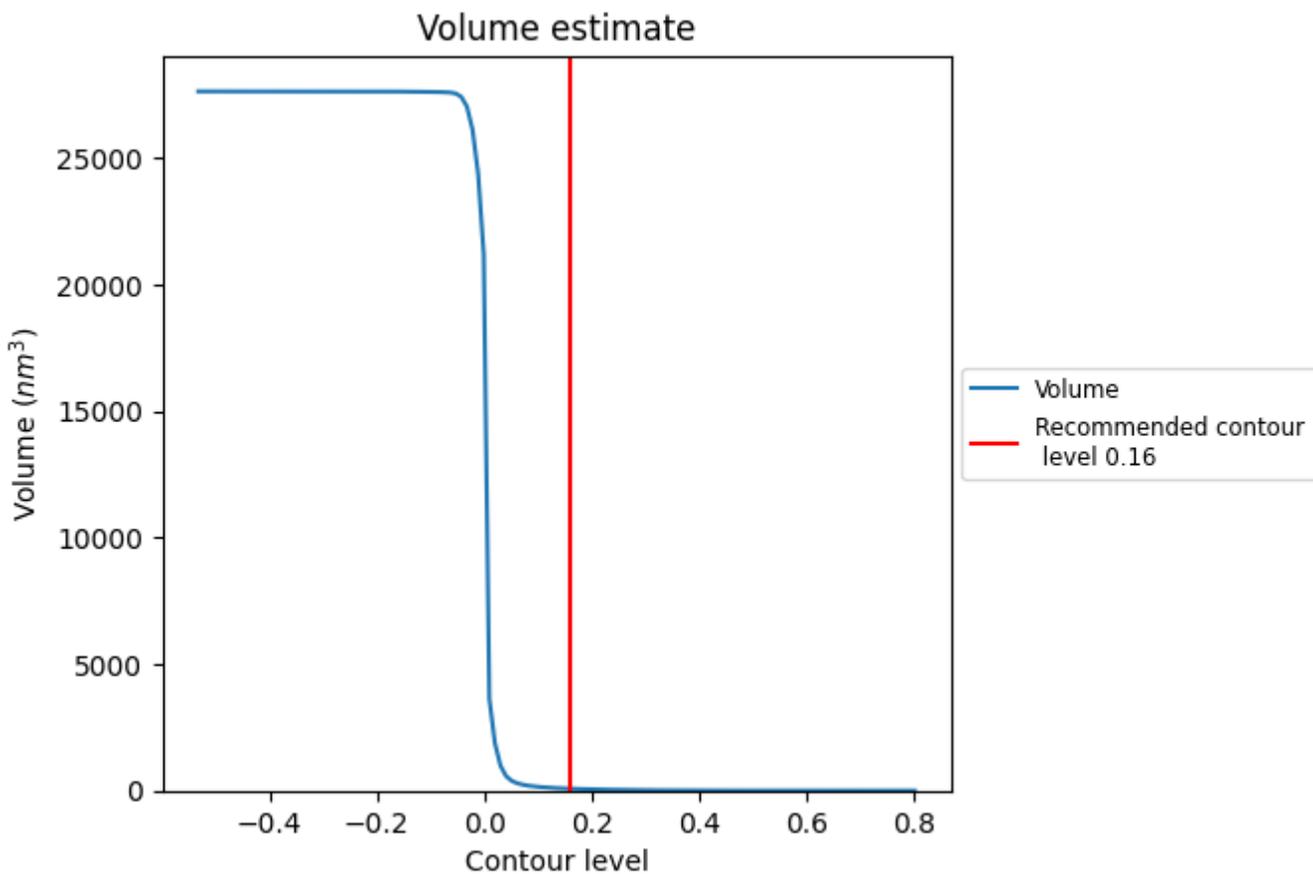
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



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.

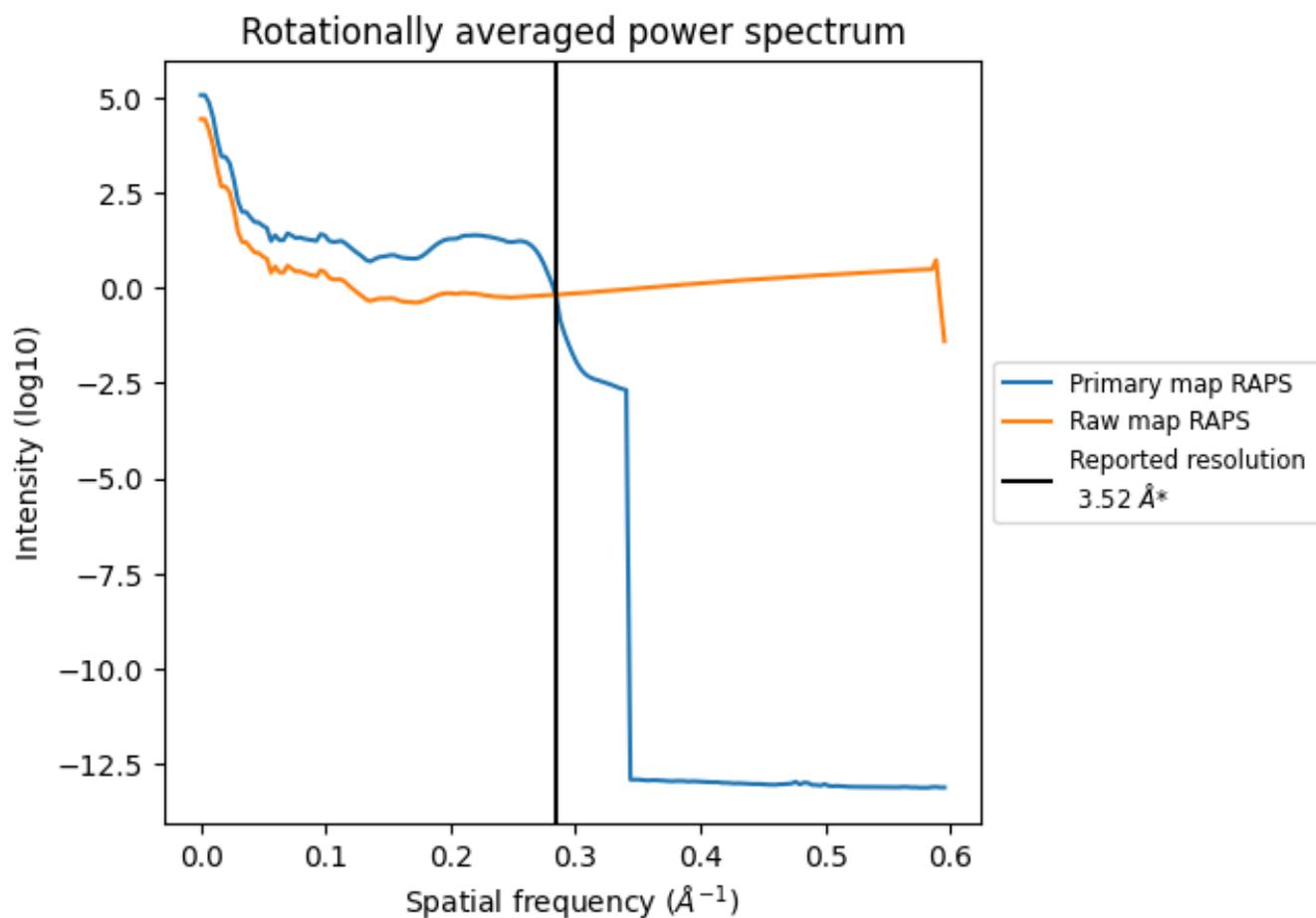
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 77 nm³; this corresponds to an approximate mass of 69 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](#)

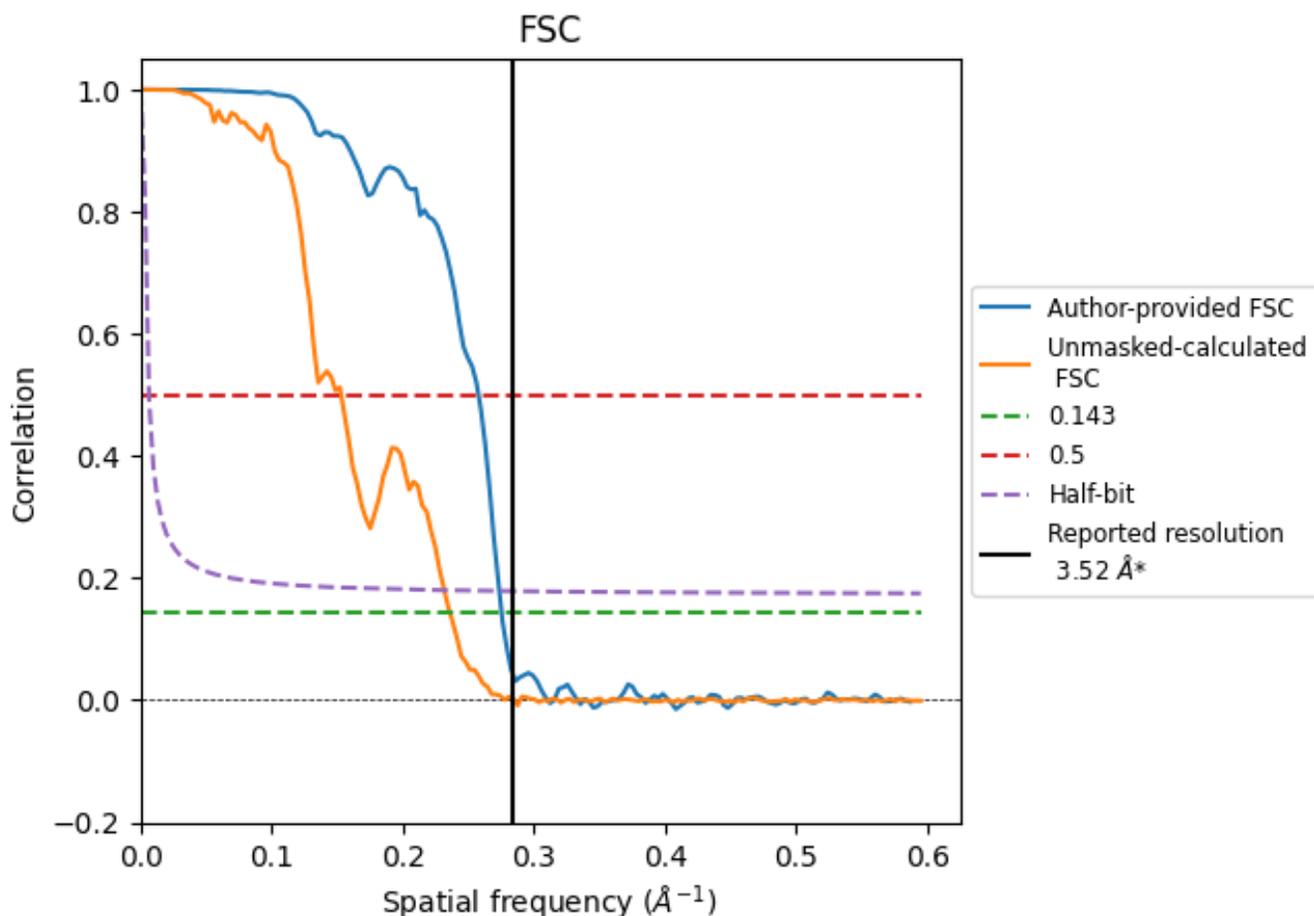


*Reported resolution corresponds to spatial frequency of 0.284 Å⁻¹

8 Fourier-Shell correlation [i](#)

Fourier-Shell Correlation (FSC) is the most commonly used method to estimate the resolution of single-particle and subtomogram-averaged maps. The shape of the curve depends on the imposed symmetry, mask and whether or not the two 3D reconstructions used were processed from a common reference. The reported resolution is shown as a black line. A curve is displayed for the half-bit criterion in addition to lines showing the 0.143 gold standard cut-off and 0.5 cut-off.

8.1 FSC [i](#)



*Reported resolution corresponds to spatial frequency of 0.284 Å⁻¹

8.2 Resolution estimates [i](#)

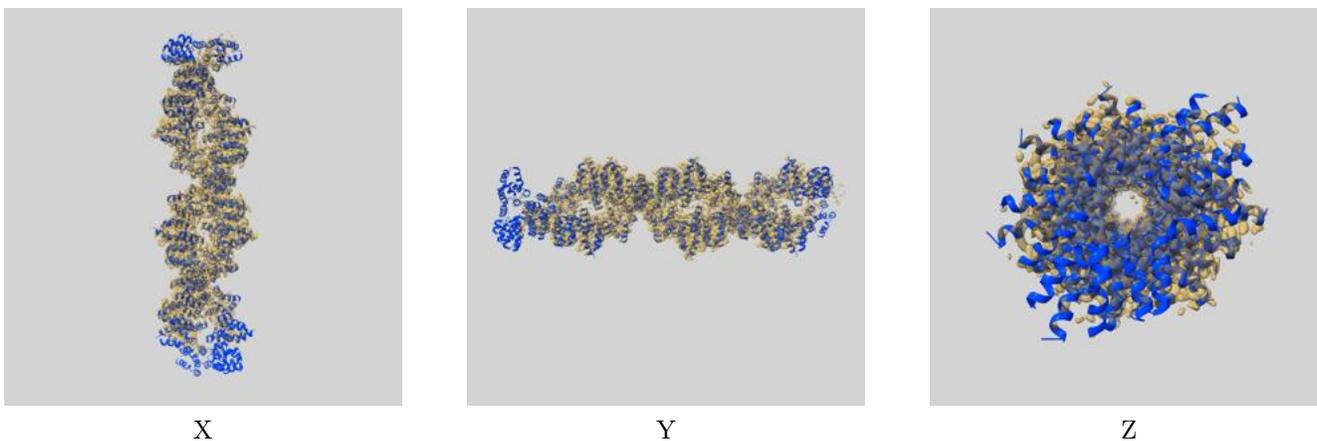
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.52	-	-
Author-provided FSC curve	3.63	3.88	3.65
Unmasked-calculated*	4.24	6.53	4.31

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 4.24 differs from the reported value 3.52 by more than 10 %

9 Map-model fit [i](#)

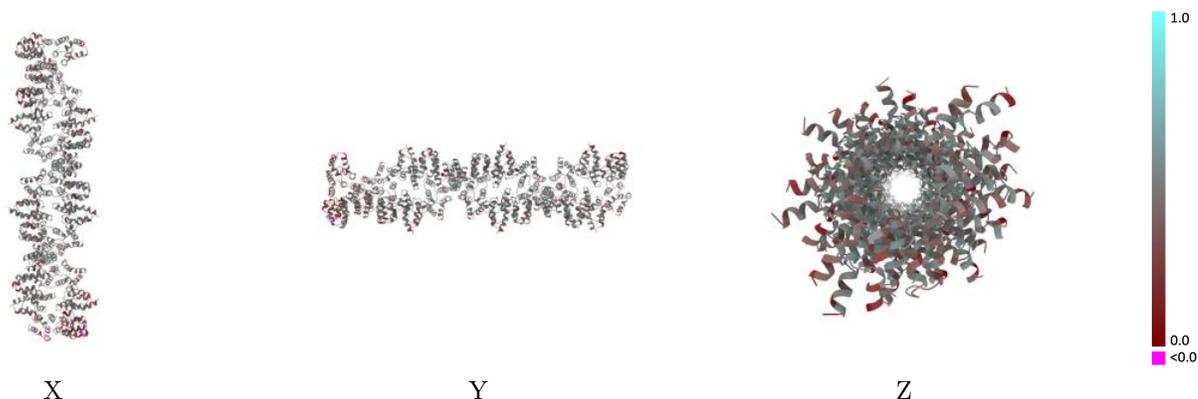
This section contains information regarding the fit between EMDB map EMD-56096 and PDB model 9TNZ. Per-residue inclusion information can be found in section 3 on page 51.

9.1 Map-model overlay [i](#)



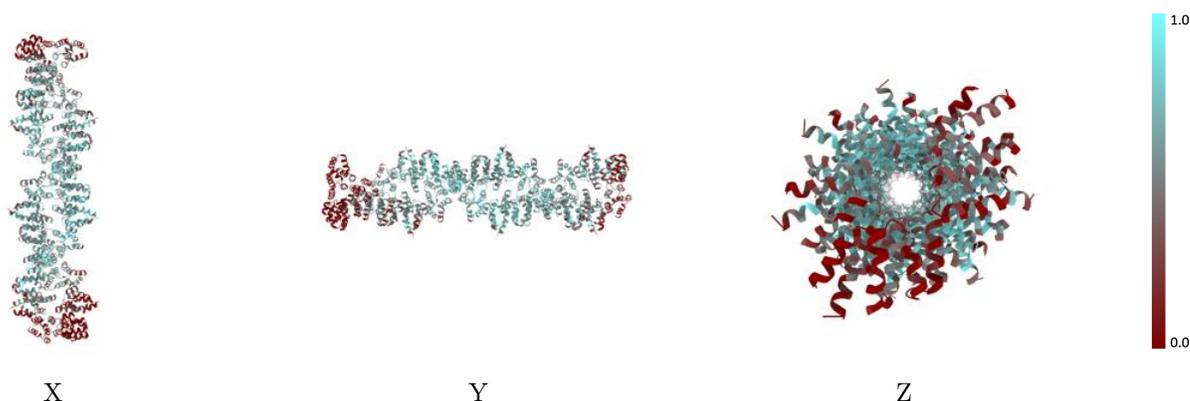
The images above show the 3D surface view of the map at the recommended contour level 0.16 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

9.2 Q-score mapped to coordinate model [i](#)



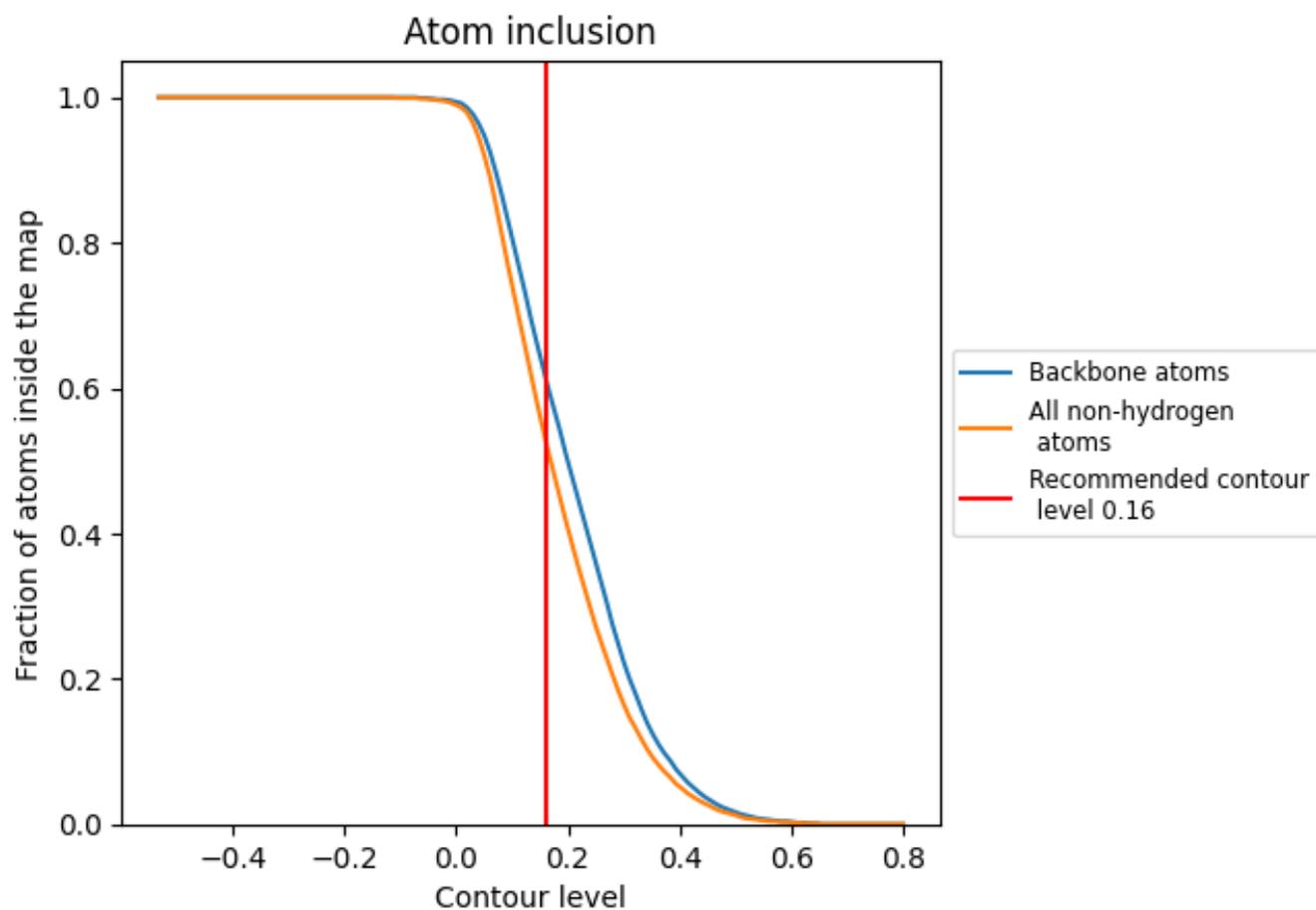
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions at which atoms can be resolved. Low Q-score values may therefore be expected for many entries.

9.3 Atom inclusion mapped to coordinate model [i](#)



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 (0.16).

9.4 Atom inclusion [i](#)



At the recommended contour level, 61% of all backbone atoms, 53% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary

The table lists the average atom inclusion at the recommended contour level (0.16) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.5280	 0.4390
A	 0.6050	 0.4550
AA	 0.0390	 0.3350
B	 0.6380	 0.4600
C	 0.6470	 0.4660
D	 0.6630	 0.4660
E	 0.6650	 0.4670
F	 0.7130	 0.4600
G	 0.7260	 0.4640
H	 0.7260	 0.4630
I	 0.7040	 0.4580
J	 0.6800	 0.4550
K	 0.0060	 0.3210
L	 0.2390	 0.4270
M	 0.4830	 0.4350
N	 0.5500	 0.4410
O	 0.6360	 0.4520
P	 0.5810	 0.4540
Q	 0.4450	 0.4340
R	 0.1550	 0.4060
S	 0.2990	 0.4200
T	 0.5630	 0.4410
V	 0.6410	 0.4480
W	 0.6760	 0.4520
X	 0.7040	 0.4590
Y	 0.6060	 0.4470
Z	 0.3330	 0.4220

