Full wwPDB X-ray Structure Validation Report (i)

Dec 2, 2021 – 11:10 am GMT

PDB ID	:	7A3U
Title	:	Crystal structure of Zika virus envelope glycoprotein in complex with the divalent F(ab')2 fragment of the broadly neutralizing human antibody EDE1 C10
Authors	:	Sharma, A.; Vaney, M.C.; Guardado-Calvo, P.; Duquerroy, S.; Rouvinski, A.; Rey, F.A.
Deposited on	:	2020-08-18
Resolution	:	3.00 Å(reported)

This is a Full wwPDB X-ray Structure 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/XrayValidationReportHelp
with specific help available everywhere you see the (i) symbol.

The following versions of software and data (see references (1)) were used in the production of this report:

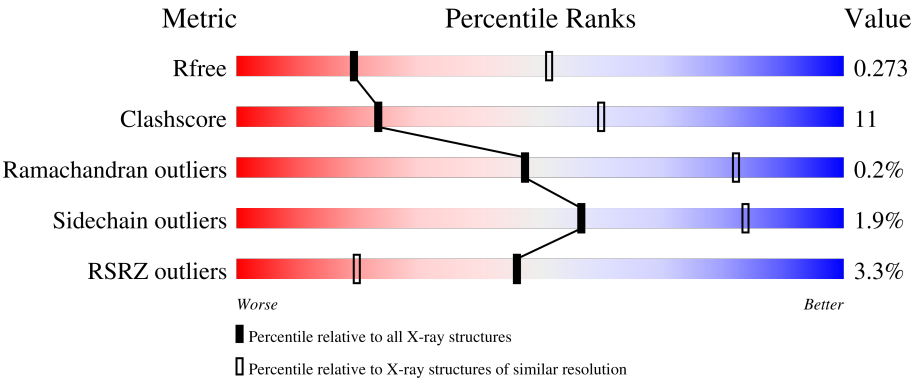
MolProbity	:	4.02b-467
Xtriage (Phenix)	:	1.13
EDS	:	2.23.2
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0267
CCP4	:	7.1.010 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.23.2

1 Overall quality at a glance

The following experimental techniques were used to determine the structure:
X-RAY DIFFRACTION

The reported resolution of this entry is 3.00 Å.

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



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	130704	2092 (3.00-3.00)
Clashscore	141614	2416 (3.00-3.00)
Ramachandran outliers	138981	2333 (3.00-3.00)
Sidechain outliers	138945	2336 (3.00-3.00)
RSRZ outliers	127900	1990 (3.00-3.00)

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

Mol	Chain	Length	Quality of chain
1	A	414	76% 20% ·
2	H	266	4% 60% 24% 16%
3	L	217	7% 62% 30% · 6%

2 Entry composition

There are 4 unique types of molecules in this entry. The entry contains 6283 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, the ZeroOcc column contains the number of atoms modelled with zero occupancy, 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 Envelope protein.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	398	Total	C	N	O	S	0	0	0
			3039	1899	531	583	26			

There are 5 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	410	GLY	-	expression tag	UNP A0A1U9YHM2
A	411	LEU	-	expression tag	UNP A0A1U9YHM2
A	412	VAL	-	expression tag	UNP A0A1U9YHM2
A	413	PRO	-	expression tag	UNP A0A1U9YHM2
A	414	ARG	-	expression tag	UNP A0A1U9YHM2

- Molecule 2 is a protein called EDE1 C10 antibody divalent F(ab')2 fragment.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	H	224	Total	C	N	O	S	0	0	0
			1729	1098	286	337	8			

- Molecule 3 is a protein called EDE1 C10 divalent F(ab')2 fragment.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	L	204	Total	C	N	O	S	0	0	0
			1508	942	251	309	6			

- Molecule 4 is water.

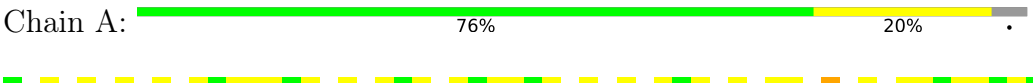
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	A	6	Total	O	0	0
			6	6		
4	H	1	Total	O	0	0
			1	1		

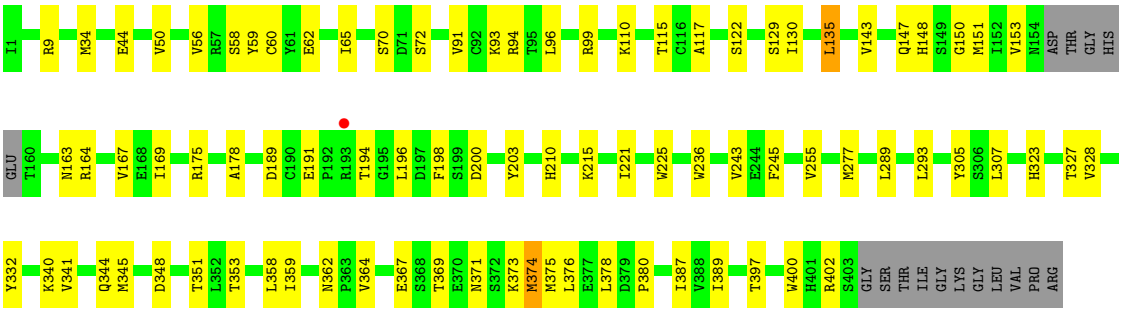
3 Residue-property plots (i)

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

• Molecule 1: Envelope protein

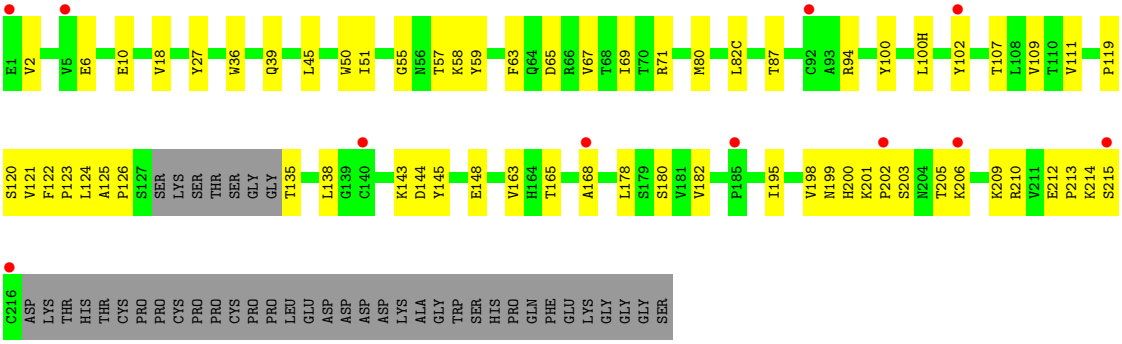
Chain A:





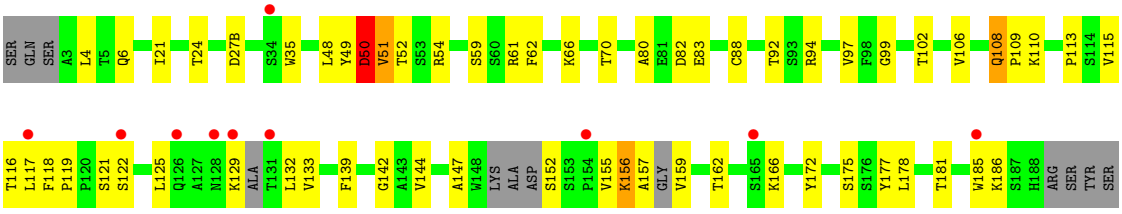
• Molecule 2: EDE1 C10 antibody divalent F(ab')2 fragment

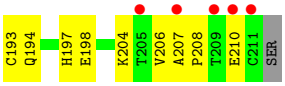
Chain H:



• Molecule 3: EDE1 C10 divalent F(ab')2 fragment

Chain L:




C193
Q194
H197
E198
K204
T205
V206
A207
P208
T209
E210
C211
SER

4 Data and refinement statistics (i)

Property	Value	Source
Space group	C 2 2 21	Depositor
Cell constants a, b, c, α, β, γ	55.51Å 170.73Å 221.16Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	19.93 – 3.00 19.93 – 3.00	Depositor EDS
% Data completeness (in resolution range)	98.4 (19.93-3.00) 98.4 (19.93-3.00)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.00 (at 2.98Å)	Xtriage
Refinement program	PHENIX 1.17.1_3660	Depositor
R, R_{free}	0.224 , 0.273 0.224 , 0.273	Depositor DCC
R_{free} test set	1866 reflections (8.81%)	wwPDB-VP
Wilson B-factor (Å^2)	106.2	Xtriage
Anisotropy	0.360	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	(Not available) , (Not available)	EDS
L-test for twinning[2]	$< \|L\| > = 0.47$, $< L^2 > = 0.31$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.95	EDS
Total number of atoms	6283	wwPDB-VP
Average B, all atoms (Å^2)	140.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.49% of the height of the origin peak. No significant pseudotranslation is detected.*

[1] Intensities estimated from amplitudes.

[2] Theoretical values of $< |L| >$, $< L^2 >$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

5 Model quality

5.1 Standard geometry

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#$\|Z\|$ >5	RMSZ	#$\|Z\|$ >5
1	A	0.27	0/3102	0.52	0/4201
2	H	0.31	0/1776	0.57	1/2422 (0.0%)
3	L	0.32	0/1542	0.52	0/2099
All	All	0.30	0/6420	0.53	1/8722 (0.0%)

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand.A planarity outlier is detected by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

Mol	Chain	#Chirality outliers	#Planarity outliers
2	H	0	2
3	L	0	1
All	All	0	3

There are no bond length outliers.

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	H	214	LYS	CD-CE-NZ	-5.82	98.32	111.70

There are no chirality outliers.

All (3) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
2	H	135	THR	Peptide
2	H	213	PRO	Peptide
3	L	50	ASP	Peptide

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	3039	0	2975	53	0
2	H	1729	0	1668	42	0
3	L	1508	0	1449	53	0
4	A	6	0	0	0	0
4	H	1	0	0	0	0
All	All	6283	0	6092	140	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 11.

All (140) 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)
2:H:87:THR:HG22	2:H:111:VAL:H	1.34	0.89
1:A:153:VAL:HG11	1:A:164:ARG:HH12	1.41	0.84
3:L:80:ALA:HA	3:L:106:VAL:HG21	1.58	0.84
1:A:150:GLY:O	3:L:49:TYR:OH	1.96	0.83
2:H:119:PRO:HD2	2:H:205:THR:HG21	1.59	0.82
3:L:142:GLY:HA3	3:L:172:TYR:HD2	1.45	0.82
3:L:6:GLN:NE2	3:L:88:CYS:SG	2.56	0.78
3:L:61:ARG:NH2	3:L:82:ASP:OD2	2.15	0.78
2:H:59:TYR:HE1	2:H:69:ILE:HG12	1.48	0.77
2:H:195:ILE:HG12	2:H:210:ARG:HG2	1.66	0.77
1:A:351:THR:HG23	1:A:353:THR:H	1.49	0.76
1:A:147:GLN:HB2	1:A:151:MET:HG3	1.68	0.75
1:A:305:TYR:O	1:A:340:LYS:NZ	2.19	0.73
2:H:94:ARG:HH21	2:H:102:TYR:HD2	1.35	0.73
2:H:119:PRO:HB3	2:H:145:TYR:HB3	1.71	0.72
1:A:72:SER:OG	1:A:99:ARG:NH1	2.24	0.70
2:H:120:SER:HB2	2:H:122:PHE:CZ	2.27	0.69
2:H:124:LEU:HD21	3:L:118:PHE:CB	2.24	0.67
2:H:124:LEU:HD21	3:L:118:PHE:HB3	1.76	0.67
1:A:400:TRP:CZ3	1:A:402:ARG:HB2	2.29	0.66
1:A:50:VAL:HG11	1:A:130:ILE:HD12	1.77	0.66
3:L:50:ASP:O	3:L:52:THR:N	2.28	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:191:GLU:O	1:A:194:THR:OG1	2.14	0.64
3:L:142:GLY:HA3	3:L:172:TYR:CD2	2.31	0.64
2:H:165:THR:HG22	2:H:180:SER:HB2	1.80	0.63
3:L:162:THR:HG1	3:L:175:SER:H	1.47	0.63
1:A:59:TYR:CG	1:A:221:ILE:HD11	2.35	0.61
1:A:348:ASP:HB3	1:A:351:THR:HG22	1.82	0.61
3:L:27(B):ASP:OD1	3:L:27(B):ASP:N	2.32	0.61
3:L:185:TRP:CZ2	3:L:208:PRO:HB3	2.36	0.61
2:H:145:TYR:HE2	2:H:148:GLU:HA	1.67	0.59
3:L:113:PRO:HB3	3:L:139:PHE:HB3	1.84	0.59
1:A:341:VAL:HG21	1:A:374:MET:SD	2.43	0.59
1:A:345:MET:HG2	1:A:387:ILE:HD13	1.85	0.58
2:H:100(H):LEU:HB3	3:L:50:ASP:HB2	1.87	0.57
2:H:10:GLU:HB2	2:H:109:VAL:HG12	1.87	0.57
2:H:126:PRO:HB3	2:H:138:LEU:HD11	1.86	0.56
3:L:144:VAL:HG12	3:L:197:HIS:HB2	1.86	0.56
3:L:207:ALA:HB3	3:L:210:GLU:HB3	1.88	0.56
3:L:21:ILE:HD12	3:L:102:THR:HG21	1.87	0.56
3:L:83:GLU:HG3	3:L:106:VAL:HG22	1.87	0.56
1:A:328:VAL:HG11	1:A:389:ILE:HD11	1.88	0.56
3:L:35:TRP:HB2	3:L:48:LEU:HB2	1.88	0.55
3:L:186:LYS:O	3:L:186:LYS:NZ	2.22	0.55
2:H:36:TRP:CE2	2:H:80:MET:HB2	2.40	0.55
3:L:4:LEU:HB2	3:L:99:GLY:HA2	1.88	0.55
1:A:147:GLN:OE1	1:A:147:GLN:N	2.35	0.54
3:L:121:SER:O	3:L:125:LEU:HG	2.09	0.53
2:H:63:PHE:O	2:H:67:VAL:HG22	2.09	0.52
2:H:39:GLN:HB2	2:H:45:LEU:HD23	1.92	0.52
3:L:147:ALA:HB3	3:L:194:GLN:HG2	1.90	0.52
1:A:91:VAL:HG11	1:A:243:VAL:HG11	1.91	0.52
1:A:62:GLU:HG2	1:A:122:SER:HB2	1.92	0.52
3:L:83:GLU:HG3	3:L:106:VAL:H	1.75	0.52
3:L:110:LYS:NZ	3:L:198:GLU:OE1	2.42	0.52
1:A:44:GLU:OE2	2:H:100:TYR:OH	2.20	0.51
1:A:135:LEU:HD23	1:A:198:PHE:CE2	2.45	0.51
1:A:130:ILE:HD11	1:A:203:TYR:HB2	1.93	0.51
3:L:51:VAL:HG21	3:L:66:LYS:HB2	1.91	0.51
1:A:143:VAL:HG22	1:A:163:ASN:HA	1.93	0.51
1:A:34:MET:HE1	1:A:359:ILE:HG23	1.93	0.51
3:L:159:VAL:HG22	3:L:178:LEU:HD13	1.92	0.50
1:A:58:SER:O	1:A:225:TRP:HA	2.12	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:H:18:VAL:HG13	2:H:82(C):LEU:HD11	1.94	0.50
3:L:122:SER:HA	3:L:125:LEU:HD12	1.94	0.50
1:A:65:ILE:HG23	1:A:117:ALA:HB1	1.94	0.50
2:H:59:TYR:CE1	2:H:69:ILE:HG12	2.37	0.49
2:H:124:LEU:HD22	2:H:125:ALA:H	1.75	0.49
1:A:344:GLN:HG2	1:A:345:MET:N	2.26	0.49
2:H:163:VAL:HG22	2:H:182:VAL:HG12	1.94	0.49
1:A:378:LEU:HD22	1:A:387:ILE:HD12	1.94	0.49
1:A:221:ILE:O	1:A:221:ILE:HG13	2.14	0.48
3:L:6:GLN:HE22	3:L:88:CYS:H	1.62	0.48
1:A:344:GLN:HG2	1:A:345:MET:H	1.79	0.48
1:A:70:SER:OG	1:A:115:THR:HG22	2.14	0.48
3:L:115:VAL:HG13	3:L:204:LYS:HG2	1.95	0.47
2:H:121:VAL:HG21	2:H:198:VAL:HG11	1.97	0.47
1:A:332:TYR:O	1:A:371:ASN:HA	2.15	0.47
2:H:200:HIS:HE1	2:H:202:PRO:HB2	1.80	0.47
3:L:108:GLN:HG2	3:L:109:PRO:HD2	1.95	0.47
3:L:117:LEU:HD22	3:L:193:CYS:N	2.30	0.47
2:H:100(H):LEU:HD22	3:L:50:ASP:CG	2.34	0.47
2:H:201:LYS:HD2	2:H:201:LYS:HA	1.74	0.46
1:A:169:ILE:HD11	1:A:289:LEU:HD21	1.97	0.46
1:A:175:ARG:HG2	1:A:189:ASP:HA	1.96	0.46
1:A:245:PHE:CE2	1:A:255:VAL:HB	2.50	0.46
3:L:133:VAL:HG23	3:L:177:TYR:CD1	2.51	0.46
2:H:124:LEU:HD13	2:H:125:ALA:N	2.31	0.46
3:L:155:VAL:HG12	3:L:156:LYS:N	2.30	0.46
2:H:145:TYR:HB2	2:H:200:HIS:HD2	1.81	0.46
3:L:132:LEU:HD11	3:L:206:VAL:HG21	1.98	0.46
1:A:9:ARG:HB3	1:A:323:HIS:NE2	2.30	0.45
3:L:4:LEU:HG	3:L:97:VAL:HG22	1.98	0.45
1:A:358:LEU:HD11	1:A:376:LEU:HD12	1.99	0.45
1:A:59:TYR:CD1	1:A:225:TRP:HB3	2.51	0.45
1:A:367:GLU:HB3	1:A:369:THR:HG22	1.98	0.45
2:H:65:ASP:OD1	2:H:65:ASP:N	2.38	0.45
1:A:191:GLU:HG3	1:A:194:THR:HG23	1.99	0.44
3:L:157:ALA:C	3:L:159:VAL:HG23	2.37	0.44
1:A:59:TYR:CE1	1:A:225:TRP:HB3	2.52	0.44
1:A:93:LYS:HG3	1:A:94:ARG:N	2.33	0.44
3:L:166:LYS:HG2	3:L:172:TYR:CE1	2.53	0.44
2:H:119:PRO:HD2	2:H:205:THR:CG2	2.40	0.44
1:A:373:LYS:NZ	3:L:52:THR:OG1	2.49	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:L:129:LYS:HE2	3:L:129:LYS:HB3	1.69	0.44
1:A:387:ILE:O	1:A:397:THR:HA	2.17	0.43
3:L:117:LEU:HD11	3:L:132:LEU:HG	2.00	0.43
3:L:152:SER:O	3:L:152:SER:OG	2.36	0.43
1:A:148:HIS:HA	1:A:375:MET:HB3	2.00	0.43
2:H:51:ILE:HD13	2:H:57:THR:HG22	2.01	0.43
1:A:198:PHE:N	1:A:198:PHE:CD1	2.87	0.43
3:L:118:PHE:HA	3:L:119:PRO:HD3	1.84	0.43
2:H:69:ILE:CD1	2:H:80:MET:HG2	2.48	0.42
3:L:51:VAL:HG13	3:L:52:THR:HG23	2.00	0.42
3:L:186:LYS:HA	3:L:186:LYS:HD2	1.89	0.42
2:H:168:ALA:HB2	2:H:178:LEU:HD23	2.02	0.42
2:H:2:VAL:HG13	2:H:27:TYR:CD1	2.54	0.42
2:H:50:TRP:CE2	2:H:58:LYS:HB3	2.54	0.42
2:H:55:GLY:HA2	2:H:71:ARG:HE	1.85	0.42
2:H:124:LEU:HD11	3:L:118:PHE:CD1	2.55	0.42
3:L:54:ARG:HD3	3:L:62:PHE:O	2.19	0.42
1:A:167:VAL:CG2	1:A:178:ALA:HB2	2.50	0.42
1:A:378:LEU:O	1:A:380:PRO:HD3	2.19	0.42
2:H:145:TYR:HB2	2:H:200:HIS:CD2	2.54	0.42
3:L:24:THR:HG22	3:L:70:THR:HG22	2.01	0.42
1:A:56:VAL:CG2	1:A:129:SER:HB3	2.49	0.42
1:A:200:ASP:HA	1:A:215:LYS:HD3	2.02	0.42
1:A:340:LYS:HA	1:A:364:VAL:HG12	2.01	0.42
3:L:4:LEU:HD21	3:L:27(B):ASP:OD2	2.19	0.42
1:A:60:CYS:HB2	1:A:236:TRP:CH2	2.55	0.41
2:H:199:ASN:HB3	2:H:206:LYS:HG2	2.01	0.41
1:A:210:HIS:CE1	1:A:277:MET:HG3	2.55	0.41
2:H:143:LYS:HG2	2:H:144:ASP:OD2	2.19	0.41
3:L:116:THR:HB	3:L:118:PHE:CZ	2.55	0.41
1:A:196:LEU:HD12	1:A:196:LEU:HA	1.85	0.41
2:H:6:GLU:OE1	2:H:107:THR:HG23	2.21	0.41
3:L:185:TRP:CE2	3:L:208:PRO:HB3	2.54	0.41
1:A:96:LEU:HB3	1:A:110:LYS:HB3	2.03	0.40
2:H:123:PRO:HD3	2:H:209:LYS:HE2	2.03	0.40
3:L:92:THR:OG1	3:L:94:ARG:HG3	2.22	0.40

There are no symmetry-related clashes.

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

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	394/414 (95%)	391 (99%)	3 (1%)	0	100 100
2	H	220/266 (83%)	212 (96%)	8 (4%)	0	100 100
3	L	194/217 (89%)	190 (98%)	2 (1%)	2 (1%)	15 53
All	All	808/897 (90%)	793 (98%)	13 (2%)	2 (0%)	47 82

All (2) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
3	L	51	VAL
3	L	50	ASP

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 X-ray entries followed by that with respect to entries of similar resolution.

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	332/345 (96%)	326 (98%)	6 (2%)	59 85
2	H	192/227 (85%)	189 (98%)	3 (2%)	62 86
3	L	172/182 (94%)	168 (98%)	4 (2%)	50 80
All	All	696/754 (92%)	683 (98%)	13 (2%)	57 84

All (13) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	135	LEU

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Mol	Chain	Res	Type
1	A	293	LEU
1	A	307	LEU
1	A	327	THR
1	A	362	ASN
1	A	374	MET
2	H	203	SER
2	H	212	GLU
2	H	215	SER
3	L	59	SER
3	L	108	GLN
3	L	156	LYS
3	L	181	THR

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (1) such sidechains are listed below:

Mol	Chain	Res	Type
3	L	39	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 monosaccharides in this entry.

5.6 Ligand geometry (i)

There are no ligands in this entry.

5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

6 Fit of model and data

6.1 Protein, DNA and RNA chains

In the following table, the column labelled '#RSRZ> 2' contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95^{th} percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled 'Q< 0.9' lists the number of (and percentage) of residues with an average occupancy less than 0.9.

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å^2)	Q<0.9
1	A	398/414 (96%)	-0.33	1 (0%) 94 84	78, 126, 173, 202	0
2	H	224/266 (84%)	0.10	11 (4%) 29 11	89, 164, 211, 245	0
3	L	204/217 (94%)	0.02	15 (7%) 14 4	80, 132, 229, 263	0
All	All	826/897 (92%)	-0.13	27 (3%) 46 20	78, 134, 208, 263	0

All (27) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
2	H	216	CYS	4.4
3	L	211	CYS	4.1
2	H	215	SER	4.0
3	L	126	GLN	3.9
3	L	129	LYS	3.8
2	H	168	ALA	3.5
3	L	207	ALA	3.2
2	H	185	PRO	3.1
2	H	92	CYS	3.0
2	H	206	LYS	2.8
3	L	209	THR	2.8
3	L	122	SER	2.8
1	A	193	ARG	2.7
3	L	210	GLU	2.6
2	H	1	GLU	2.5
2	H	140	CYS	2.4
3	L	128	ASN	2.4
3	L	34	SER	2.3
3	L	117	LEU	2.3
3	L	131	THR	2.3
3	L	185	TRP	2.2
2	H	5	VAL	2.2
3	L	205	THR	2.1

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Mol	Chain	Res	Type	RSRZ
3	L	165	SER	2.1
2	H	102	TYR	2.1
2	H	202	PRO	2.0
3	L	154	PRO	2.0

6.2 Non-standard residues in protein, DNA, RNA chains (i)

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

6.3 Carbohydrates (i)

There are no monosaccharides in this entry.

6.4 Ligands (i)

There are no ligands in this entry.

6.5 Other polymers (i)

There are no such residues in this entry.