WORLDWIDE PDB PROTEIN DATA BANK

Full wwPDB X-ray Structure Validation Report (i)

Jul 2, 2024 – 10:14 am BST

PDB ID	:	8PMX
Title	:	rat HEV P domain in complex with glycan-sensitive nAb p60.12
Authors	:	Ssebyatika, G.; Krey, T.
Deposited on	:	2023-06-29
Resolution	:	3.92 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 types of validation reports are described at
http://www.wwpdb.org/validation/2017/FAQs#types.

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

|		
MolProbity	:	4.02b-467
Xtriage (Phenix)	:	1.13
EDS	:	2.37.1
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.37.1

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 3.92 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.
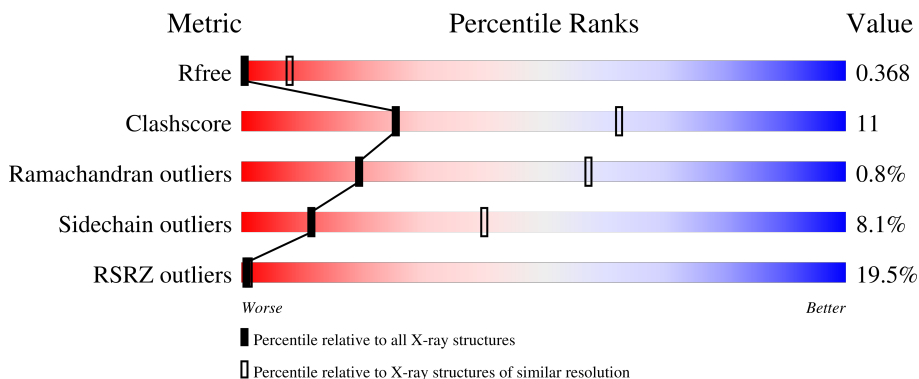
Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	130704	1019 (4.18-3.66)
Clashscore	141614	1016 (4.16-3.68)
Ramachandran outliers	138981	1039 (4.18-3.66)
Sidechain outliers	138945	1032 (4.18-3.66)
RSRZ outliers	127900	1002 (4.20-3.64)

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	165	
1	B	165	
2	H	233	
3	L	217	

2 Entry composition ⓘ

There are 3 unique types of molecules in this entry. The entry contains 5572 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 Pro-secreted protein ORF2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	154	Total	C	N	O	S	0	0	0
			1194	766	197	228	3			
1	B	154	Total	C	N	O	S	0	0	0
			1194	766	197	228	3			

There are 12 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	450	GLY	-	expression tag	UNP E0XL23
A	451	ASP	-	expression tag	UNP E0XL23
A	452	ASP	-	expression tag	UNP E0XL23
A	453	ASP	-	expression tag	UNP E0XL23
A	454	ASP	-	expression tag	UNP E0XL23
A	455	LYS	-	expression tag	UNP E0XL23
B	450	GLY	-	expression tag	UNP E0XL23
B	451	ASP	-	expression tag	UNP E0XL23
B	452	ASP	-	expression tag	UNP E0XL23
B	453	ASP	-	expression tag	UNP E0XL23
B	454	ASP	-	expression tag	UNP E0XL23
B	455	LYS	-	expression tag	UNP E0XL23

- Molecule 2 is a protein called Fab p60.12-HC.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	H	214	Total	C	N	O	S	0	0	0
			1602	1011	271	313	7			

- Molecule 3 is a protein called Fab p60.12-LC.

| Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	L	213	Total	C	N	O	S	0	1	0
			1582	988	261	328	5			

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.
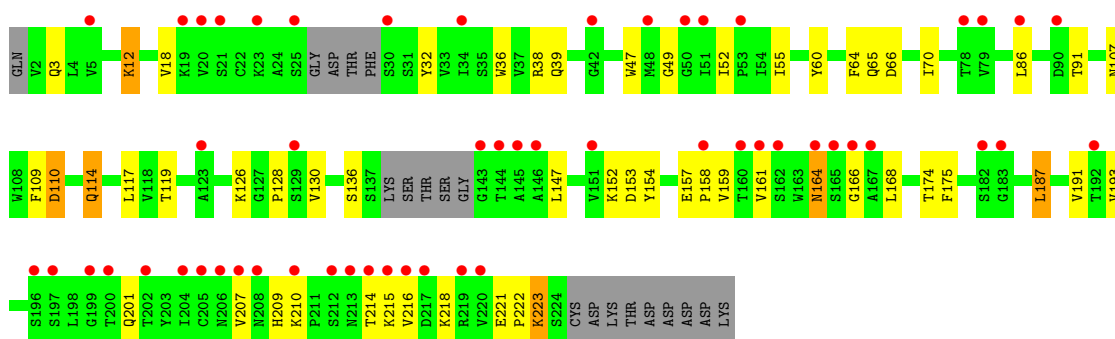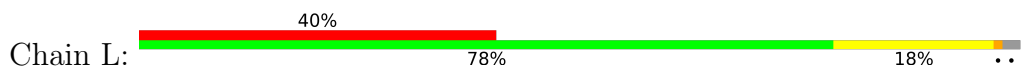
• Molecule 1: Pro-secreted protein ORF2
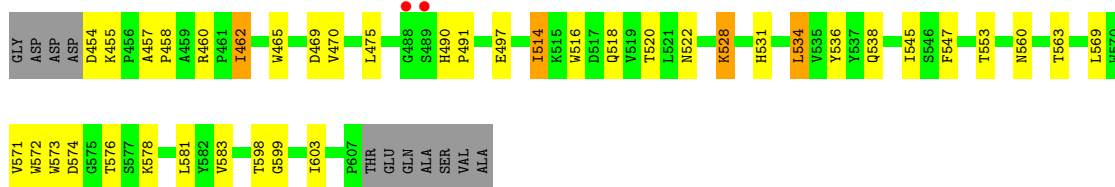
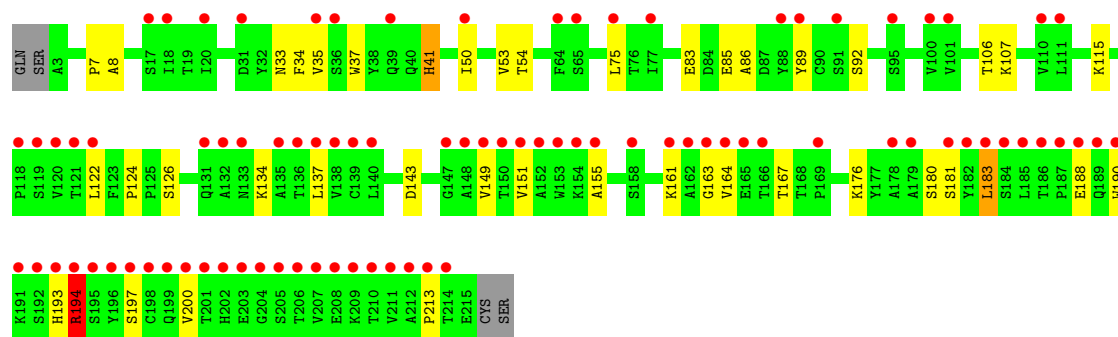• Molecule 1: Pro-secreted protein ORF2
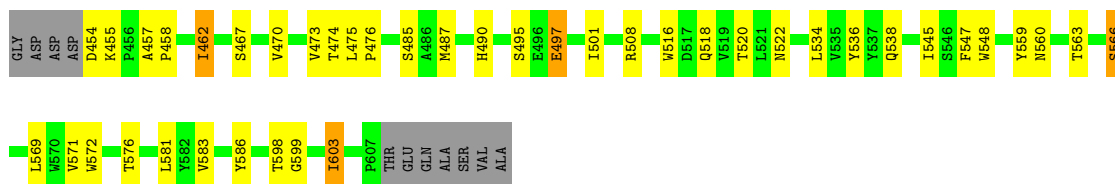
• Molecule 2: Fab p60.12-HC

• Molecule 3: Fab p60.12-LC

4 Data and refinement statistics ⓘ

Property	Value	Source
Space group	P 43 21 2	Depositor
Cell constants a, b, c, α, β, γ	112.86Å 112.86Å 184.44Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	48.68 – 3.92 48.70 – 3.92	Depositor EDS
% Data completeness (in resolution range)	99.8 (48.68-3.92) 99.8 (48.70-3.92)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.39 (at 3.88Å)	Xtriage
Refinement program	BUSTER 2.10.4	Depositor
R, R_{free}	0.300 , 0.361 0.294 , 0.368	Depositor DCC
R_{free} test set	562 reflections (5.01%)	wwPDB-VP
Wilson B-factor (Å^2)	171.8	Xtriage
Anisotropy	0.025	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.29 , 214.6	EDS
L-test for twinning[2]	$< |L| > = 0.42, < L^2 > = 0.25$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.88	EDS
Total number of atoms	5572	wwPDB-VP
Average B, all atoms (Å^2)	196.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 5.10% of the height of the origin peak. No significant pseudotranslation is detected.*

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[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	0.37	0/1232	0.57	0/1690
1	B	0.39	0/1232	0.59	0/1690
2	H	0.31	0/1638	0.50	0/2233
3	L	0.30	0/1627	0.44	0/2223
All	All	0.34	0/5729	0.52	0/7836

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts ⓘ

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	1194	0	1148	27	0
1	B	1194	0	1148	22	0
2	H	1602	0	1588	43	0
3	L	1582	0	1524	37	0
All	All	5572	0	5408	116	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 (116) 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:223:LYS:HA	3:L:126:SER:HA	1.35	1.07
2:H:157:GLU:HG2	2:H:158:PRO:HA	1.40	1.02
2:H:130:VAL:HB	2:H:218:LYS:HG2	1.39	1.01
1:A:534:LEU:HD12	1:A:572:TRP:CD1	2.01	0.95
2:H:136:SER:HA	2:H:222:PRO:HB3	1.52	0.92
2:H:130:VAL:HB	2:H:218:LYS:CG	2.02	0.89
1:A:534:LEU:HD12	1:A:572:TRP:CG	2.09	0.88
2:H:126:LYS:NZ	2:H:153:ASP:HB3	1.89	0.87
2:H:152:LYS:NZ	3:L:134:LYS:HB3	1.90	0.86
3:L:190:TRP:NE1	3:L:213:PRO:HB3	1.89	0.86
3:L:190:TRP:HE1	3:L:213:PRO:HB3	1.41	0.85
2:H:52:ILE:HB	2:H:55:ILE:HG22	1.64	0.80
2:H:152:LYS:HZ2	3:L:134:LYS:HB3	1.48	0.79
2:H:126:LYS:HZ1	2:H:153:ASP:HB3	1.48	0.79
3:L:143:ASP:HA	3:L:176:LYS:HB3	1.64	0.78
1:A:528:LYS:HZ3	1:A:536:TYR:H	1.32	0.76
1:B:467:SER:HA	1:B:603:ILE:HG22	1.71	0.71
2:H:36:TRP:CD1	2:H:70:ILE:HD13	2.25	0.71
2:H:223:LYS:HA	3:L:126:SER:CA	2.16	0.71
2:H:157:GLU:HG2	2:H:158:PRO:CA	2.16	0.71
1:B:534:LEU:HD12	1:B:572:TRP:NE1	2.05	0.70
1:A:460:ARG:NH2	1:A:469:ASP:OD2	2.28	0.67
1:A:514:ILE:HG22	1:A:516:TRP:NE1	2.11	0.66
3:L:8:ALA:HA	3:L:106:THR:HA	1.78	0.65
3:L:37:TRP:CD2	3:L:75:LEU:HD13	2.31	0.65
2:H:47:TRP:NE1	2:H:49:GLY:O	2.29	0.65
3:L:161:LYS:NZ	3:L:164:VAL:HB	2.13	0.64
1:A:470:VAL:HG11	1:B:470:VAL:HG11	1.79	0.63
2:H:126:LYS:HZ3	2:H:153:ASP:C	2.01	0.63
1:A:528:LYS:NZ	1:A:536:TYR:H	1.97	0.62
2:H:216:VAL:HB	2:H:218:LYS:NZ	2.14	0.62
3:L:151:VAL:HB	3:L:181:SER:HB2	1.82	0.62
3:L:53:VAL:HG12	3:L:54:THR:HG23	1.80	0.61
3:L:122:LEU:HG	3:L:137:LEU:HB3	1.81	0.61
2:H:107:ASN:HB2	3:L:34:PHE:HB3	1.83	0.60
1:A:514:ILE:HG21	1:A:516:TRP:CE2	2.37	0.59
1:A:545:ILE:HD13	1:A:583:VAL:HG23	1.84	0.59
2:H:152:LYS:HZ1	3:L:134:LYS:HB3	1.66	0.59
3:L:35:VAL:HG22	3:L:92:SER:HB2	1.84	0.59
2:H:223:LYS:NZ	3:L:124:PRO:HB2	2.18	0.59
3:L:161:LYS:HZ3	3:L:164:VAL:HB	1.67	0.59
1:A:514:ILE:HG22	1:A:516:TRP:CD1	2.38	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:560:ASN:HB3	1:B:563:THR:OG1	2.03	0.58
3:L:8:ALA:HB1	3:L:107:LYS:HG2	1.86	0.58
1:A:514:ILE:CG2	1:A:516:TRP:CE2	2.85	0.58
1:A:516:TRP:CE2	1:A:571:VAL:HG11	2.38	0.58
2:H:223:LYS:CA	3:L:126:SER:HA	2.24	0.58
3:L:193:HIS:ND1	3:L:194:ARG:NH2	2.52	0.58
1:B:545:ILE:HD13	1:B:583:VAL:HG23	1.86	0.58
2:H:126:LYS:HZ3	2:H:153:ASP:HB3	1.65	0.57
1:A:475:LEU:HD21	1:A:581:LEU:HD22	1.85	0.57
1:A:560:ASN:HB3	1:A:563:THR:OG1	2.04	0.57
1:B:516:TRP:CE2	1:B:571:VAL:HG11	2.40	0.57
2:H:164:ASN:HB2	2:H:168:LEU:HB2	1.87	0.55
2:H:216:VAL:HB	2:H:218:LYS:HZ1	1.72	0.55
1:B:586:TYR:OH	3:L:54:THR:O	2.24	0.55
2:H:174:THR:HG23	2:H:187:LEU:HD22	1.89	0.54
3:L:50[B]:ILE:HG13	3:L:75:LEU:HD11	1.89	0.54
3:L:37:TRP:CG	3:L:75:LEU:HD13	2.43	0.54
3:L:50[A]:ILE:HG13	3:L:75:LEU:HD11	1.89	0.53
2:H:128:PRO:HD2	2:H:209:HIS:HB2	1.90	0.53
3:L:151:VAL:HB	3:L:181:SER:CB	2.38	0.53
2:H:168:LEU:HG	2:H:193:VAL:HG11	1.89	0.53
1:A:569:LEU:HD22	1:A:581:LEU:HD21	1.91	0.53
2:H:91:THR:HG23	2:H:119:THR:HA	1.93	0.51
1:B:569:LEU:HD22	1:B:581:LEU:HD21	1.92	0.50
1:B:534:LEU:HD12	1:B:572:TRP:HE1	1.77	0.49
2:H:109:PHE:O	2:H:110:ASP:HB2	2.13	0.49
1:B:473:VAL:HG11	1:B:581:LEU:HD22	1.95	0.48
1:B:536:TYR:CE2	1:B:572:TRP:HB2	2.47	0.48
1:A:462:ILE:HD12	1:A:462:ILE:H	1.77	0.48
1:B:474:THR:HG22	1:B:598:THR:HG22	1.96	0.48
1:A:465:TRP:CE3	1:A:603:ILE:HD11	2.49	0.47
1:A:516:TRP:HD1	1:A:573:TRP:CD1	2.33	0.46
2:H:12:LYS:HD2	2:H:18:VAL:HB	1.97	0.46
3:L:167:THR:OG1	3:L:180:SER:OG	2.30	0.46
2:H:130:VAL:HG22	2:H:207:VAL:HB	1.96	0.46
2:H:126:LYS:HG2	2:H:154:TYR:HA	1.97	0.46
2:H:38:ARG:HE	2:H:64:PHE:HZ	1.64	0.45
3:L:41:HIS:ND1	3:L:86:ALA:HB2	2.31	0.45
2:H:221:GLU:HG2	2:H:222:PRO:HD2	1.99	0.45
3:L:7:PRO:O	3:L:106:THR:OG1	2.28	0.44
2:H:223:LYS:NZ	3:L:124:PRO:CB	2.80	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:L:143:ASP:HA	3:L:176:LYS:HD2	1.98	0.44
1:B:476:PRO:HD2	1:B:497:GLU:O	2.18	0.44
2:H:157:GLU:CG	2:H:158:PRO:HA	2.28	0.44
3:L:37:TRP:HA	3:L:89:TYR:O	2.17	0.44
1:B:457:ALA:HA	1:B:458:PRO:HD3	1.90	0.44
1:B:490:HIS:NE2	1:B:559:TYR:CD2	2.87	0.43
1:B:462:ILE:HD12	1:B:462:ILE:H	1.82	0.43
2:H:18:VAL:HG12	2:H:86:LEU:HD11	1.99	0.43
2:H:159:VAL:HG12	2:H:209:HIS:ND1	2.33	0.43
1:A:514:ILE:HG22	1:A:516:TRP:CE2	2.53	0.43
1:B:487:MET:HG3	1:B:490:HIS:HB2	2.00	0.43
1:B:547:PHE:HA	1:B:599:GLY:HA2	2.00	0.43
2:H:126:LYS:NZ	2:H:154:TYR:N	2.66	0.43
1:A:457:ALA:HA	1:A:458:PRO:HD3	1.94	0.42
1:A:553:THR:HB	1:B:566:SER:HB2	2.00	0.42
2:H:223:LYS:HZ2	3:L:124:PRO:HB2	1.82	0.42
2:H:114:GLN:H	2:H:114:GLN:HG3	1.59	0.42
2:H:191:VAL:HG22	2:H:193:VAL:HG13	2.01	0.42
2:H:130:VAL:CB	2:H:218:LYS:HG2	2.28	0.42
1:A:547:PHE:HA	1:A:599:GLY:HA2	2.02	0.41
1:A:528:LYS:HZ3	1:A:536:TYR:N	2.10	0.41
1:B:501:ILE:HG23	1:B:508:ARG:HB3	2.02	0.41
3:L:164:VAL:HG13	3:L:183:LEU:HA	2.01	0.41
3:L:149:VAL:HG23	3:L:200:VAL:HG11	2.02	0.41
1:A:574:ASP:CG	1:A:578:LYS:HB3	2.41	0.41
1:A:528:LYS:HE3	1:A:528:LYS:HB3	1.84	0.41
1:B:548:TRP:NE1	1:B:598:THR:OG1	2.52	0.41
1:B:475:LEU:HB3	1:B:495:SER:HB2	2.02	0.41
3:L:155:ALA:HA	3:L:197:SER:HB2	2.02	0.41
1:A:465:TRP:CE3	1:A:603:ILE:CD1	3.05	0.40
2:H:161:VAL:HG22	2:H:207:VAL:HA	2.04	0.40
1:A:490:HIS:HA	1:A:491:PRO:HD3	1.89	0.40

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 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	152/165 (92%)	128 (84%)	24 (16%)	0	100	100
1	B	152/165 (92%)	135 (89%)	16 (10%)	1 (1%)	22	60
2	H	208/233 (89%)	171 (82%)	34 (16%)	3 (1%)	11	46
3	L	212/217 (98%)	175 (82%)	35 (16%)	2 (1%)	17	54
All	All	724/780 (93%)	609 (84%)	109 (15%)	6 (1%)	19	57

All (6) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	H	110	ASP
2	H	214	THR
3	L	194	ARG
1	B	603	ILE
2	H	166	GLY
3	L	163	GLY

5.3.2 Protein sidechains ⓘ

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	127/135 (94%)	113 (89%)	14 (11%)	6	27
1	B	127/135 (94%)	116 (91%)	11 (9%)	10	37
2	H	183/200 (92%)	166 (91%)	17 (9%)	9	33
3	L	182/185 (98%)	174 (96%)	8 (4%)	28	56
All	All	619/655 (94%)	569 (92%)	50 (8%)	11	40

All (50) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	454	ASP
1	A	455	LYS
1	A	462	ILE
1	A	497	GLU
1	A	514	ILE
1	A	518	GLN
1	A	520	THR
1	A	522	ASN
1	A	528	LYS
1	A	531	HIS
1	A	534	LEU
1	A	538	GLN
1	A	576	THR
1	A	598	THR
1	B	454	ASP
1	B	455	LYS
1	B	462	ILE
1	B	485	SER
1	B	497	GLU
1	B	518	GLN
1	B	520	THR
1	B	522	ASN
1	B	538	GLN
1	B	566	SER
1	B	576	THR
2	H	3	GLN
2	H	12	LYS
2	H	32	TYR
2	H	39	GLN
2	H	60	TYR
2	H	65	GLN
2	H	66	ASP
2	H	114	GLN
2	H	117	LEU
2	H	147	LEU
2	H	164	ASN
2	H	175	PHE
2	H	187	LEU
2	H	201	GLN
2	H	210	LYS
2	H	215	LYS
2	H	223	LYS
3	L	33	ASN

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Mol	Chain	Res	Type
3	L	41	HIS
3	L	83	GLU
3	L	85	GLU
3	L	115	LYS
3	L	183	LEU
3	L	188	GLU
3	L	194	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (3) such sidechains are listed below:

Mol	Chain	Res	Type
1	B	464	ASN
2	H	77	ASN
3	L	39	GLN

5.3.3　RNA ⓘ

There are no RNA molecules in this entry.

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

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

5.5　Carbohydrates ⓘ

There are no monosaccharides in this entry.

5.6　Ligand geometry ⓘ

There are no ligands in this entry.

5.7　Other polymers ⓘ

There are no such residues in this entry.

5.8　Polymer linkage issues ⓘ

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, 95th 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	154/165 (93%)	0.21	2 (1%)	77	68	52, 125, 227, 280	0
1	B	154/165 (93%)	0.01	0	100	100	50, 123, 208, 279	0
2	H	214/233 (91%)	1.19	54 (25%)	0	0	141, 259, 296, 300	1 (0%)
3	L	213/217 (98%)	2.49	87 (40%)	0	0	64, 274, 300, 300	0
All	All	735/780 (94%)	1.11	143 (19%)	1	1	50, 200, 300, 300	1 (0%)

All (143) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
3	L	208	GLU	18.5
3	L	210	THR	15.1
3	L	150	THR	14.8
3	L	195	SER	11.4
3	L	198	CYS	11.3
3	L	209	LYS	11.1
3	L	164	VAL	11.0
3	L	211	VAL	11.0
3	L	131	GLN	10.5
3	L	207	VAL	10.4
3	L	186	THR	10.4
3	L	196	TYR	9.7
3	L	149	VAL	9.7
3	L	151	VAL	9.4
3	L	199	GLN	9.4
3	L	152	ALA	8.5
3	L	206	THR	8.5
3	L	148	ALA	8.0
2	H	220	VAL	7.9
3	L	162	ALA	7.8
3	L	212	ALA	7.7

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Mol	Chain	Res	Type	RSRZ
3	L	163	GLY	7.5
2	H	204	ILE	7.5
3	L	122	LEU	7.4
2	H	144	THR	7.3
2	H	183	GLY	7.3
2	H	162	SER	7.0
3	L	200	VAL	7.0
3	L	133	ASN	7.0
2	H	90	ASP	7.0
3	L	184	SER	7.0
3	L	121	THR	6.8
3	L	187	PRO	6.5
3	L	181	SER	6.5
3	L	190	TRP	6.4
3	L	137	LEU	6.3
2	H	146	ALA	6.1
3	L	192	SER	6.1
3	L	201	THR	6.0
2	H	30	SER	6.0
2	H	129	SER	6.0
3	L	194	ARG	5.7
3	L	153	TRP	5.7
3	L	136	THR	5.5
3	L	185	LEU	5.3
2	H	165	SER	5.2
2	H	207	VAL	5.1
3	L	205	SER	4.9
3	L	101	VAL	4.9
3	L	139	CYS	4.9
3	L	91	SER	4.8
2	H	206	ASN	4.8
3	L	202	HIS	4.7
3	L	135	ALA	4.6
3	L	188	GLU	4.6
3	L	119	SER	4.5
2	H	182	SER	4.5
3	L	214	THR	4.4
2	H	208	ASN	4.3
3	L	178	ALA	4.3
3	L	89	TYR	4.3
2	H	25	SER	4.2
2	H	164	ASN	4.2

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Mol	Chain	Res	Type	RSRZ
2	H	21	SER	4.1
2	H	216	VAL	4.1
2	H	51	ILE	4.0
3	L	169	PRO	4.0
3	L	213	PRO	4.0
2	H	143	GLY	4.0
3	L	193	HIS	3.9
3	L	36	SER	3.9
2	H	161	VAL	3.9
3	L	18	ILE	3.9
3	L	189	GLN	3.9
2	H	217	ASP	3.8
2	H	42	GLY	3.8
3	L	120	VAL	3.8
3	L	165	GLU	3.8
3	L	166	THR	3.7
3	L	140	LEU	3.7
3	L	179	ALA	3.6
3	L	203	GLU	3.6
3	L	17	SER	3.6
3	L	204	GLY	3.6
3	L	88	TYR	3.5
3	L	183	LEU	3.5
3	L	77	ILE	3.5
3	L	197	SER	3.5
3	L	161	LYS	3.5
2	H	210	LYS	3.3
2	H	205	CYS	3.2
3	L	64	PHE	3.2
2	H	160	THR	3.1
2	H	123	ALA	3.1
3	L	138	VAL	3.1
3	L	110	VAL	3.0
3	L	132	ALA	3.0
2	H	197	SER	3.0
2	H	53	PRO	3.0
2	H	19	LYS	3.0
1	A	488	GLY	3.0
1	A	489	SER	2.9
2	H	79	VAL	2.9
3	L	118	PRO	2.9
2	H	20	VAL	2.9

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Mol	Chain	Res	Type	RSRZ
2	H	34	ILE	2.9
2	H	166	GLY	2.8
2	H	213	ASN	2.7
3	L	20	ILE	2.7
2	H	145	ALA	2.7
2	H	50	GLY	2.7
2	H	167	ALA	2.7
3	L	50[A]	ILE	2.7
3	L	111	LEU	2.6
2	H	214	THR	2.6
3	L	182	TYR	2.6
2	H	151	VAL	2.6
2	H	5	VAL	2.5
2	H	200	THR	2.5
3	L	147	GLY	2.5
3	L	155	ALA	2.4
2	H	192	THR	2.4
3	L	39	GLN	2.4
2	H	202	THR	2.4
3	L	31	ASP	2.4
3	L	100	VAL	2.4
2	H	215	LYS	2.3
3	L	35	VAL	2.3
3	L	75	LEU	2.3
3	L	191	LYS	2.2
2	H	199	GLY	2.2
2	H	212	SER	2.2
3	L	154	LYS	2.2
2	H	196	SER	2.2
2	H	86	LEU	2.2
2	H	78	THR	2.1
3	L	65	SER	2.1
2	H	23	LYS	2.1
3	L	158	SER	2.1
2	H	158	PRO	2.0
2	H	219	ARG	2.0
2	H	48	MET	2.0
3	L	95	SER	2.0

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

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

6.3 Carbohydrates ⓘ

There are no monosaccharides in this entry.

6.4 Ligands ⓘ

There are no ligands in this entry.

6.5 Other polymers ⓘ

There are no such residues in this entry.