Full wwPDB X-ray Structure Validation Report (i)

Aug 22, 2023 – 07:45 AM EDT

PDB ID	:	2QQL
Title	:	Neuropilin-2 a1a2b1b2 Domains in Complex with a Semaphorin-Blocking Fab
Authors	:	Appleton, B.A.; Wiesmann, C.
Deposited on	:	2007-07-26
Resolution	:	3.10 Å(reported)

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

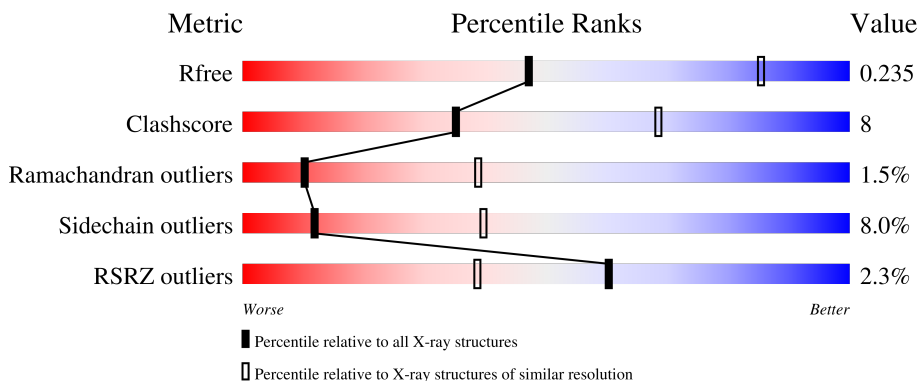|		
MolProbity	:	4.02b-467
Xtriage (Phenix)	:	1.13
EDS	:	2.35
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.35

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 3.10 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	Percentile Ranks	Value
Rfree		0.235
Clashscore		8
Ramachandran outliers		1.5%
Sidechain outliers		8.0%
RSRZ outliers		2.3%

Worse   *Better*

▮ Percentile relative to all X-ray structures

⧌ Percentile relative to X-ray structures of similar resolution

Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	130704	1094 (3.10-3.10)
Clashscore	141614	1184 (3.10-3.10)
Ramachandran outliers	138981	1141 (3.10-3.10)
Sidechain outliers	138945	1141 (3.10-3.10)
RSRZ outliers	127900	1067 (3.10-3.10)

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	579	75% 18% • •
2	H	231	76% 18% • •
3	L	214	75% 21% •

2 Entry composition ⓘ

There are 3 unique types of molecules in this entry. The entry contains 7740 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 Neuropilin-2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	554	Total 4416	C 2804	N 764	O 826	S 22	0	0	0

There are 6 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	596	HIS	-	expression tag	UNP O60462
A	597	HIS	-	expression tag	UNP O60462
A	598	HIS	-	expression tag	UNP O60462
A	599	HIS	-	expression tag	UNP O60462
A	600	HIS	-	expression tag	UNP O60462
A	601	HIS	-	expression tag	UNP O60462

- Molecule 2 is a protein called Antibody Heavy Chain.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	H	222	Total 1682	C 1064	N 284	O 327	S 7	0	0	0

- Molecule 3 is a protein called Antibody Light Chain.

| Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	L	214	Total 1642	C 1031	N 272	O 333	S 6	0	0	0

3 Residue-property plots ⓘ

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.
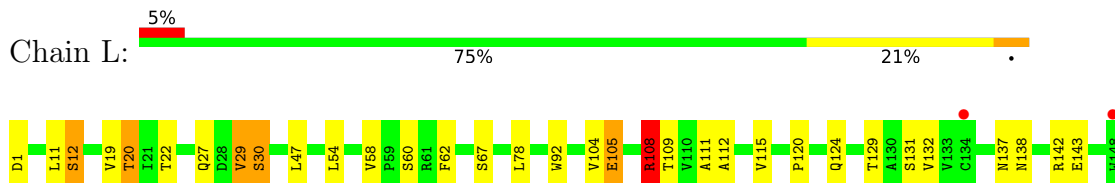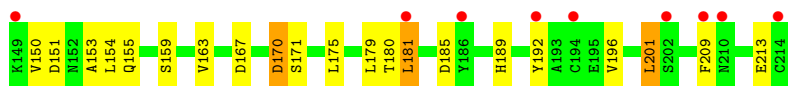
- Molecule 1: Neuropilin-2
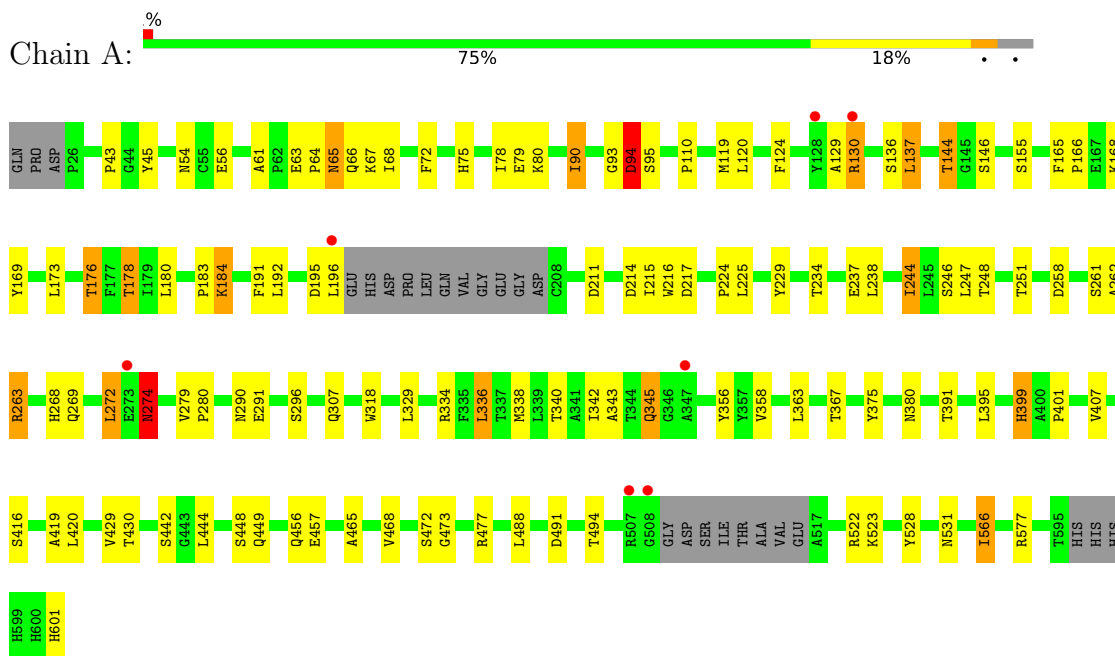
Chain A:

- Molecule 2: Antibody Heavy Chain
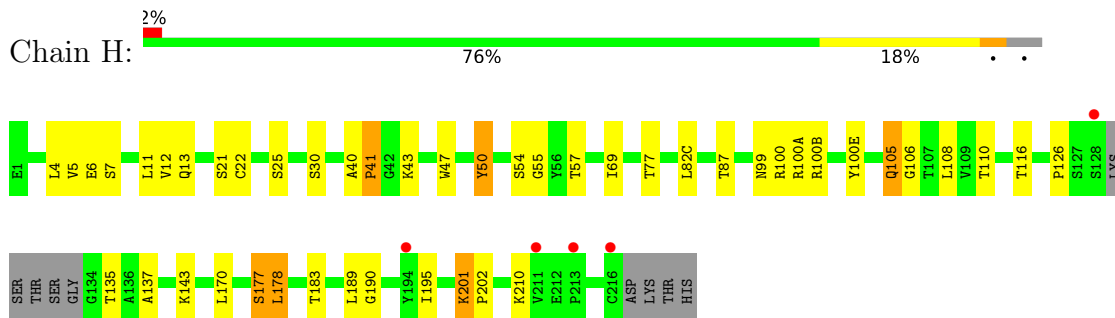
Chain H:

- Molecule 3: Antibody Light Chain

Chain L:

4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 32 2 1	Depositor
Cell constants a, b, c, α, β, γ	121.41Å 121.41Å 202.72Å 90.00° 90.00° 120.00°	Depositor
Resolution (Å)	30.00 – 3.10 41.49 – 3.10	Depositor EDS
% Data completeness (in resolution range)	99.7 (30.00-3.10) 99.6 (41.49-3.10)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	0.06	Depositor
$< I/\sigma(I) >$ [1]	2.61 (at 3.12Å)	Xtriage
Refinement program	REFMAC	Depositor
R, R_{free}	0.188 , 0.232 0.191 , 0.235	Depositor DCC
R_{free} test set	1611 reflections (5.05%)	wwPDB-VP
Wilson B-factor (Å^2)	92.5	Xtriage
Anisotropy	0.182	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.29 , 112.4	EDS
L-test for twinning[2]	$< |L| > = 0.50, < L^2 > = 0.33$	Xtriage
Estimated twinning fraction	0.015 for -h,-k,l	Xtriage
F_o,F_c correlation	0.94	EDS
Total number of atoms	7740	wwPDB-VP
Average B, all atoms (Å^2)	112.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.01% 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	0.51	0/4540	0.67	1/6162 (0.0%)
2	H	0.51	0/1724	0.68	1/2349 (0.0%)
3	L	0.50	0/1679	0.64	1/2281 (0.0%)
All	All	0.51	0/7943	0.67	3/10792 (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
1	A	0	1

There are no bond length outliers.

All (3) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	H	100(A)	ARG	NE-CZ-NH1	7.17	123.89	120.30
3	L	108	ARG	NE-CZ-NH1	6.35	123.47	120.30
1	A	137	LEU	CA-CB-CG	5.62	128.24	115.30

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	64	PRO	Peptide

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	4416	0	4250	70	0
2	H	1682	0	1635	24	0
3	L	1642	0	1591	33	0
All	All	7740	0	7476	124	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 8.

All (124) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:180:LEU:HD23	1:A:244:ILE:HG22	1.57	0.86
1:A:244:ILE:HD12	1:A:444:LEU:HD11	1.62	0.80
2:H:137:ALA:HB2	2:H:183:THR:HG22	1.64	0.77
1:A:68:ILE:CG2	1:A:120:LEU:HD12	2.15	0.77
1:A:68:ILE:HG22	1:A:120:LEU:HD12	1.68	0.74
1:A:343:ALA:HB2	1:A:395:LEU:HD12	1.73	0.70
2:H:11:LEU:HD23	2:H:12:VAL:N	2.07	0.70
3:L:54:LEU:HD11	3:L:62:PHE:O	1.91	0.70
1:A:61:ALA:HB1	1:A:66:GLN:HE21	1.57	0.70
3:L:159:SER:HB3	3:L:179:LEU:HD12	1.73	0.69
1:A:244:ILE:HD13	1:A:244:ILE:N	2.07	0.69
1:A:90:ILE:N	1:A:90:ILE:HD12	2.08	0.68
1:A:456:GLN:HA	1:A:477:ARG:HA	1.77	0.67
1:A:528:TYR:CD2	1:A:566:ILE:HD12	2.30	0.66
1:A:215:ILE:HG12	1:A:247:LEU:HD22	1.78	0.65
1:A:290:ASN:HD22	1:A:307:GLN:CG	2.09	0.65
2:H:50:TYR:C	2:H:69:ILE:HD13	2.18	0.64
1:A:274:ASN:C	1:A:274:ASN:HD22	1.99	0.64
1:A:168:LYS:NZ	1:A:258:ASP:OD1	2.30	0.63
3:L:29:VAL:CG1	3:L:29:VAL:O	2.46	0.63
2:H:183:THR:HG21	3:L:137:ASN:HD22	1.63	0.63
1:A:367:THR:HB	1:A:468:VAL:HG22	1.81	0.62
3:L:108:ARG:NH1	3:L:111:ALA:HB2	2.15	0.62
1:A:90:ILE:HD12	1:A:90:ILE:H	1.64	0.60
1:A:180:LEU:CD2	1:A:244:ILE:HG22	2.30	0.60
1:A:290:ASN:HD22	1:A:307:GLN:HG3	1.65	0.60
2:H:189:LEU:HD13	2:H:190:GLY:N	2.18	0.58
3:L:112:ALA:HB1	3:L:201:LEU:CD1	2.34	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:336:LEU:CD1	1:A:468:VAL:HG21	2.34	0.57
3:L:30:SER:HB2	3:L:92:TRP:CZ3	2.39	0.57
3:L:29:VAL:O	3:L:29:VAL:HG13	2.05	0.57
3:L:120:PRO:HD3	3:L:132:VAL:HG22	1.86	0.56
1:A:279:VAL:HG13	1:A:280:PRO:HD2	1.87	0.56
2:H:12:VAL:HG11	2:H:82(C):LEU:HD13	1.88	0.56
3:L:115:VAL:HG21	3:L:196:VAL:HG21	1.88	0.55
1:A:93:GLY:O	1:A:119:MET:HB2	2.06	0.54
2:H:178:LEU:C	2:H:178:LEU:HD12	2.28	0.54
3:L:180:THR:O	3:L:181:LEU:HD12	2.07	0.54
2:H:143:LYS:HA	2:H:177:SER:HB2	1.90	0.54
1:A:336:LEU:HD11	1:A:468:VAL:HG21	1.91	0.53
3:L:150:VAL:HG13	3:L:192:TYR:CE2	2.43	0.53
2:H:99:ASN:C	2:H:100:ARG:HG3	2.29	0.53
2:H:22:CYS:O	2:H:77:THR:HG23	2.08	0.53
1:A:211:ASP:OD1	1:A:251:THR:HA	2.09	0.52
1:A:244:ILE:HD13	1:A:244:ILE:H	1.75	0.52
1:A:79:GLU:OE2	1:A:130:ARG:HB3	2.09	0.52
1:A:342:ILE:HD11	1:A:363:LEU:HD22	1.90	0.52
3:L:192:TYR:HB2	3:L:209:PHE:CE2	2.45	0.52
1:A:68:ILE:HG21	1:A:120:LEU:HD12	1.91	0.52
1:A:244:ILE:HD11	1:A:442:SER:CB	2.40	0.52
3:L:20:THR:O	3:L:20:THR:HG22	2.09	0.51
3:L:153:ALA:O	3:L:155:GLN:N	2.44	0.51
1:A:215:ILE:HD12	1:A:229:TYR:CE1	2.47	0.50
2:H:6:GLU:HA	2:H:21:SER:O	2.10	0.50
1:A:78:ILE:HD13	1:A:124:PHE:HE1	1.76	0.50
2:H:137:ALA:CB	2:H:183:THR:HG22	2.39	0.50
1:A:216:TRP:CH2	1:A:225:LEU:HD13	2.47	0.50
1:A:178:THR:HB	1:A:246:SER:HB3	1.93	0.50
1:A:272:LEU:N	1:A:272:LEU:HD23	2.27	0.49
1:A:244:ILE:HD11	1:A:442:SER:HB2	1.95	0.48
1:A:528:TYR:CE2	1:A:566:ILE:HD12	2.48	0.48
2:H:4:LEU:HD22	2:H:22:CYS:SG	2.53	0.48
2:H:195:ILE:HG22	2:H:210:LYS:HA	1.95	0.48
1:A:215:ILE:HD12	1:A:229:TYR:HE1	1.78	0.48
1:A:531:ASN:HD22	1:A:531:ASN:N	2.12	0.48
2:H:105:GLN:NE2	2:H:106:GLY:O	2.47	0.48
3:L:163:VAL:HG22	3:L:175:LEU:HD12	1.96	0.48
1:A:356:TYR:HB2	1:A:419:ALA:HB2	1.94	0.47
1:A:75:HIS:CE1	2:H:100(E):TYR:CE2	3.02	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:L:115:VAL:CG2	3:L:196:VAL:HG21	2.44	0.47
2:H:87:THR:HG23	2:H:110:THR:HA	1.96	0.47
1:A:237:GLU:O	1:A:238:LEU:HD23	2.14	0.47
1:A:268:HIS:C	1:A:269:GLN:HE21	2.18	0.47
1:A:363:LEU:HD11	1:A:407:VAL:HG13	1.97	0.47
3:L:19:VAL:HG21	3:L:78:LEU:HD22	1.96	0.47
3:L:150:VAL:HG22	3:L:192:TYR:CD2	2.51	0.46
2:H:47:TRP:HZ2	2:H:50:TYR:CD2	2.33	0.46
1:A:215:ILE:HG12	1:A:247:LEU:CD2	2.45	0.46
3:L:47:LEU:HA	3:L:58:VAL:HG21	1.98	0.46
1:A:375:TYR:HE2	1:A:399:HIS:CD2	2.34	0.45
1:A:180:LEU:HD23	1:A:244:ILE:CG2	2.39	0.45
2:H:47:TRP:CZ2	2:H:50:TYR:CD2	3.05	0.45
1:A:165:PHE:CG	1:A:166:PRO:HA	2.52	0.44
1:A:340:THR:HG22	1:A:401:PRO:HB3	1.98	0.44
1:A:192:LEU:HD22	1:A:263:ARG:NH2	2.33	0.44
1:A:345:GLN:NE2	1:A:391:THR:O	2.51	0.43
1:A:244:ILE:N	1:A:244:ILE:CD1	2.78	0.43
1:A:336:LEU:HD13	1:A:468:VAL:HG21	2.00	0.43
1:A:465:ALA:HB1	1:A:488:LEU:HD21	1.99	0.43
1:A:291:GLU:OE1	1:A:334:ARG:NH2	2.52	0.43
3:L:167:ASP:O	3:L:171:SER:HA	2.18	0.43
1:A:72:PHE:CG	1:A:110:PRO:HD2	2.53	0.43
3:L:12:SER:HA	3:L:105:GLU:O	2.18	0.43
2:H:195:ILE:HG22	2:H:210:LYS:CB	2.49	0.43
1:A:472:SER:OG	1:A:473:GLY:N	2.52	0.43
2:H:55:GLY:O	2:H:57:THR:HG23	2.18	0.43
1:A:449:GLN:HB3	1:A:491:ASP:O	2.19	0.43
1:A:180:LEU:CD2	1:A:244:ILE:CG2	2.97	0.42
1:A:217:ASP:HB3	1:A:224:PRO:HD2	2.01	0.42
3:L:124:GLN:HG2	3:L:129:THR:O	2.18	0.42
1:A:318:TRP:CG	1:A:329:LEU:HD13	2.54	0.42
1:A:358:VAL:HG23	1:A:419:ALA:O	2.19	0.42
3:L:54:LEU:HD21	3:L:60:SER:HA	2.02	0.42
2:H:40:ALA:O	2:H:41:PRO:C	2.58	0.42
2:H:201:LYS:N	2:H:202:PRO:CD	2.82	0.42
3:L:170:ASP:OD1	3:L:170:ASP:C	2.58	0.42
3:L:181:LEU:HD23	3:L:185:ASP:CB	2.50	0.42
1:A:195:ASP:C	1:A:196:LEU:HD23	2.39	0.42
1:A:522:ARG:O	1:A:523:LYS:HG2	2.20	0.42
3:L:11:LEU:HD11	3:L:104:VAL:HG13	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:L:151:ASP:OD2	3:L:189:HIS:ND1	2.49	0.42
3:L:47:LEU:HD22	3:L:58:VAL:HG13	2.02	0.41
1:A:94:ASP:O	1:A:95:SER:CB	2.69	0.41
1:A:358:VAL:HG21	1:A:420:LEU:HD13	2.01	0.41
1:A:531:ASN:N	1:A:531:ASN:ND2	2.67	0.41
3:L:124:GLN:HE22	3:L:131:SER:HB2	1.85	0.41
1:A:191:PHE:CD2	1:A:262:ALA:HB2	2.56	0.41
3:L:47:LEU:HD22	3:L:58:VAL:CG1	2.50	0.41
1:A:176:THR:O	1:A:176:THR:HG22	2.21	0.40
1:A:169:TYR:CD1	1:A:173:LEU:HD21	2.56	0.40
1:A:144:THR:CG2	1:A:146:SER:H	2.34	0.40
1:A:183:PRO:O	1:A:184:LYS:CB	2.70	0.40
2:H:183:THR:HG21	3:L:137:ASN:ND2	2.35	0.40
3:L:11:LEU:CD1	3:L:104:VAL:HG13	2.51	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	546/579 (94%)	495 (91%)	42 (8%)	9 (2%)	9	37
2	H	218/231 (94%)	204 (94%)	12 (6%)	2 (1%)	17	52
3	L	212/214 (99%)	193 (91%)	15 (7%)	4 (2%)	8	33
All	All	976/1024 (95%)	892 (91%)	69 (7%)	15 (2%)	10	39

All (15) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	65	ASN
1	A	130	ARG
1	A	399	HIS

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Mol	Chain	Res	Type
3	L	154	LEU
1	A	94	ASP
1	A	129	ALA
1	A	274	ASN
2	H	126	PRO
3	L	67	SER
3	L	138	ASN
1	A	80	LYS
3	L	213	GLU
1	A	43	PRO
2	H	41	PRO
1	A	45	TYR

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	481/502 (96%)	445 (92%)	36 (8%)	13	42
2	H	185/193 (96%)	168 (91%)	17 (9%)	9	33
3	L	186/186 (100%)	171 (92%)	15 (8%)	11	39
All	All	852/881 (97%)	784 (92%)	68 (8%)	12	40

All (68) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	54	ASN
1	A	56	GLU
1	A	63	GLU
1	A	65	ASN
1	A	67	LYS
1	A	90	ILE
1	A	94	ASP
1	A	136	SER
1	A	137	LEU
1	A	144	THR

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Mol	Chain	Res	Type
1	A	155	SER
1	A	176	THR
1	A	178	THR
1	A	184	LYS
1	A	214	ASP
1	A	234	THR
1	A	244	ILE
1	A	248	THR
1	A	261	SER
1	A	263	ARG
1	A	272	LEU
1	A	274	ASN
1	A	296	SER
1	A	336	LEU
1	A	338	MET
1	A	345	GLN
1	A	380	ASN
1	A	416	SER
1	A	429	VAL
1	A	430	THR
1	A	448	SER
1	A	457	GLU
1	A	494	THR
1	A	566	ILE
1	A	577	ARG
1	A	601	HIS
2	H	5	VAL
2	H	7	SER
2	H	13	GLN
2	H	25	SER
2	H	30	SER
2	H	43	LYS
2	H	50	TYR
2	H	54	SER
2	H	100(B)	ARG
2	H	105	GLN
2	H	108	LEU
2	H	116	THR
2	H	135	THR
2	H	170	LEU
2	H	177	SER
2	H	178	LEU

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Mol	Chain	Res	Type
2	H	201	LYS
3	L	1	ASP
3	L	12	SER
3	L	20	THR
3	L	22	THR
3	L	27	GLN
3	L	29	VAL
3	L	30	SER
3	L	105	GLU
3	L	108	ARG
3	L	109	THR
3	L	142	ARG
3	L	143	GLU
3	L	170	ASP
3	L	181	LEU
3	L	201	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (19) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	53	GLN
1	A	65	ASN
1	A	66	GLN
1	A	71	ASN
1	A	107	ASN
1	A	157	ASN
1	A	269	GLN
1	A	274	ASN
1	A	290	ASN
1	A	312	HIS
1	A	399	HIS
1	A	531	ASN
2	H	13	GLN
2	H	99	ASN
2	H	105	GLN
2	H	192	GLN
2	H	204	ASN
3	L	3	GLN
3	L	124	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(Å²)	Q<0.9
1	A	554/579 (95%)	-0.01	7 (1%)	77	59	87, 110, 126, 169	0
2	H	222/231 (96%)	0.10	5 (2%)	60	39	99, 113, 123, 140	0
3	L	214/214 (100%)	0.21	11 (5%)	28	13	90, 112, 122, 134	0
All	All	990/1024 (96%)	0.06	23 (2%)	60	39	87, 111, 125, 169	0

All (23) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
3	L	181	LEU	5.1
1	A	196	LEU	3.4
2	H	128	SER	3.2
3	L	148	TRP	3.2
1	A	128	TYR	3.2
2	H	213	PRO	2.8
1	A	273	GLU	2.8
3	L	186	TYR	2.8
1	A	347	ALA	2.6
2	H	194	TYR	2.5
3	L	192	TYR	2.5
3	L	202	SER	2.5
3	L	210	ASN	2.4
2	H	211	VAL	2.4
1	A	507	ARG	2.4
3	L	194	CYS	2.3
1	A	130	ARG	2.3
3	L	214	CYS	2.3
3	L	209	PHE	2.2
3	L	149	LYS	2.2
1	A	508	GLY	2.2
3	L	134	CYS	2.1
2	H	216	CYS	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.