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Full wwPDB X-ray Structure Validation Report (i)

Apr 21, 2025 – 11:12 PM EDT

PDB ID	:	8TFN / pdb_00008tfn
Title	:	Structure of anti-TCRvbeta6-5 antibody in complex with the cognate TCR
Authors	:	Katragadda, M.; Servatalab, R.; Wirth, J.
Deposited on	:	2023-07-11
Resolution	:	2.54 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)	:	2.0rc1
EDS	:	3.0
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
CCP4	:	9.0.006 (Gargrove)
Density-Fitness	:	1.0.12
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.42

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 2.54 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		0.309
Clashscore		10
Ramachandran outliers		0.1%
Sidechain outliers		6.3%
RSRZ outliers		12.1%

Worse   *Better*

▍ Percentile relative to all X-ray structures

▯ Percentile relative to X-ray structures of similar resolution
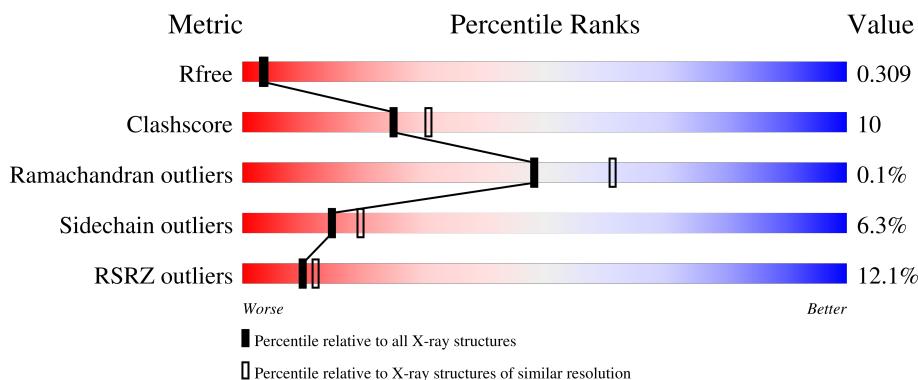
Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	164625	1004 (2.54-2.54)
Clashscore	180529	1055 (2.54-2.54)
Ramachandran outliers	177936	1048 (2.54-2.54)
Sidechain outliers	177891	1048 (2.54-2.54)
RSRZ outliers	164620	1004 (2.54-2.54)

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	204	8% / 78% 18% · ·
2	B	242	% / 76% 21% · ·
3	H	225	19% / 59% 28% · 12%
4	L	214	18% / 65% 26% · 7%

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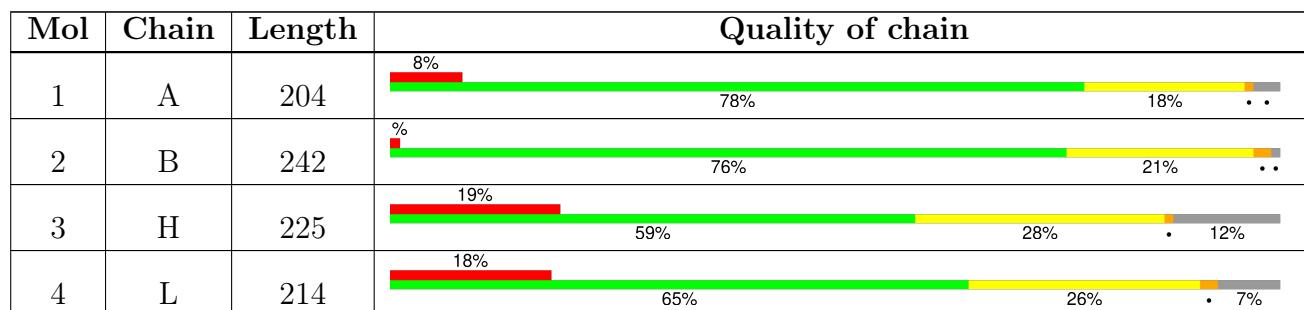
2 Entry composition ⓘ

There are 5 unique types of molecules in this entry. The entry contains 6387 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 TRAV12-3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	198	Total 1528	C 951	N 248	O 320	S 9	0	0	0

- Molecule 2 is a protein called TRBV6-5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	B	240	Total 1899	C 1195	N 332	O 364	S 8	0	1	0

- Molecule 3 is a protein called Anti-TCRVb6-5 Fab heavy chain.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	H	197	Total 1448	C 910	N 242	O 290	S 6	0	0	0

- Molecule 4 is a protein called Anti-TCRVb6-5 Fab light chain.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
4	L	199	Total 1502	C 941	N 256	O 300	S 5	0	0	0

- Molecule 5 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
5	A	6	Total 6	O 6	0	0
5	B	2	Total 2	O 2	0	0
5	H	1	Total 1	O 1	0	0
5	L	1	Total 1	O 1	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: TRAV12-3
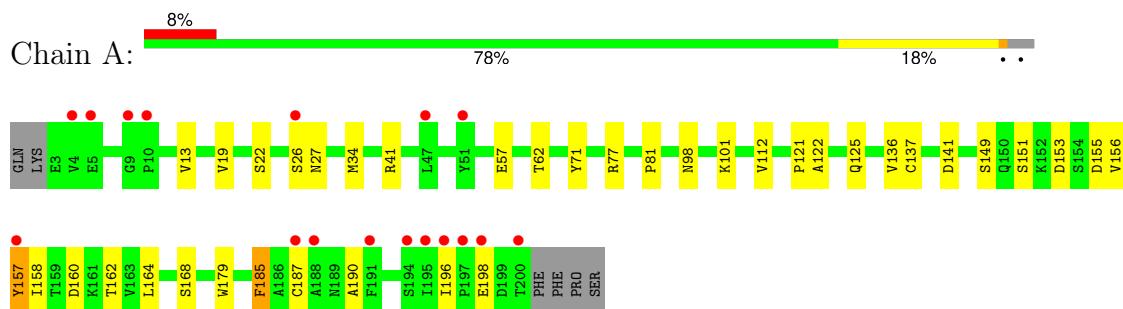
Chain A:

- Molecule 2: TRBV6-5
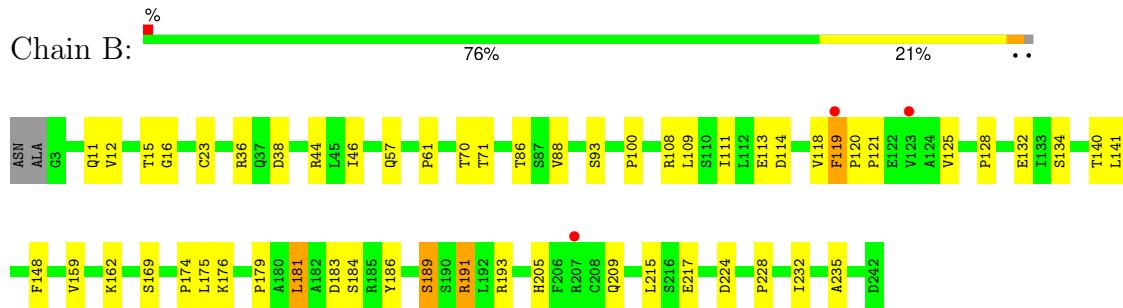
Chain B:

- Molecule 3: Anti-TCRVb6-5 Fab heavy chain
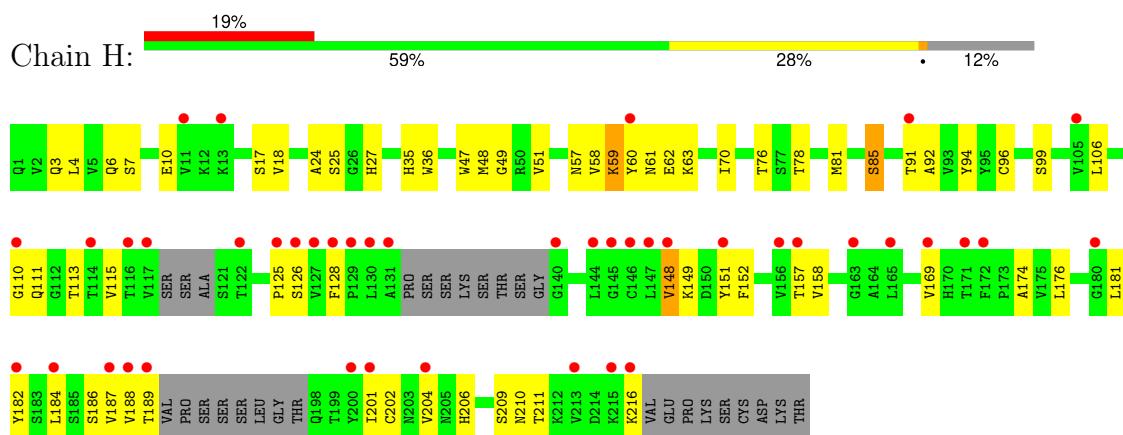
Chain H:

- Molecule 4: Anti-TCRVb6-5 Fab light chain

Chain L:

18%

65%   26%   ·   7%
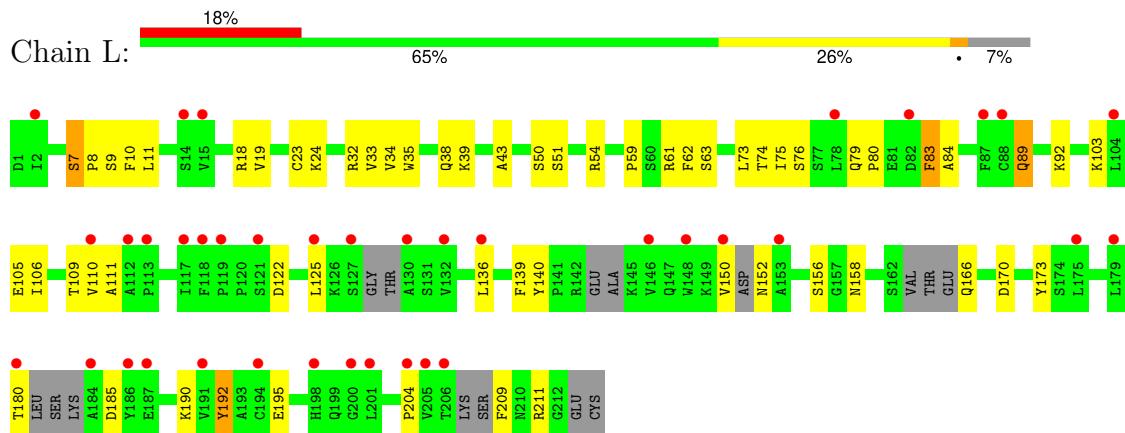
4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 2 21 2	Depositor
Cell constants a, b, c, α, β, γ	64.59Å 118.86Å 173.02Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	86.51 – 2.54 86.51 – 2.54	Depositor EDS
% Data completeness (in resolution range)	78.8 (86.51-2.54) 84.9 (86.51-2.54)	Depositor EDS
R_{merge}	0.15	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	0.93 (at 2.48Å)	Xtriage
Refinement program	REFMAC 5.8.0267	Depositor
R, R_{free}	0.245 , 0.294 0.261 , 0.309	Depositor DCC
R_{free} test set	2275 reflections (5.08%)	wwPDB-VP
Wilson B-factor (Å^2)	81.8	Xtriage
Anisotropy	0.269	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.33 , 96.1	EDS
L-test for twinning[2]	$< |L| > = 0.48, < L^2 > = 0.31$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.93	EDS
Total number of atoms	6387	wwPDB-VP
Average B, all atoms (Å^2)	103.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 4.74% 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 (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	0.27	0/1560	0.53	0/2115
2	B	0.26	0/1955	0.53	0/2663
3	H	0.28	0/1478	0.57	0/2013
4	L	0.27	0/1531	0.54	0/2073
All	All	0.27	0/6524	0.54	0/8864

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	1528	0	1444	21	0
2	B	1899	0	1804	29	0
3	H	1448	0	1363	42	0
4	L	1502	0	1411	34	0
5	A	6	0	0	0	0
5	B	2	0	0	0	0
5	H	1	0	0	0	0
5	L	1	0	0	0	0
All	All	6387	0	6022	119	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 10.

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All (119) 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:B:86:THR:HG22	2:B:111:ILE:H	1.35	0.91
1:A:164:LEU:HB3	2:B:169:SER:HB2	1.60	0.83
3:H:148:VAL:HB	3:H:149:LYS:HA	1.61	0.81
2:B:120:PRO:HD3	2:B:228:PRO:HB3	1.65	0.78
1:A:121:PRO:HB2	1:A:198:GLU:HG3	1.69	0.74
1:A:185:PHE:CE1	1:A:190:ALA:HB2	2.26	0.70
3:H:99:SER:HB3	3:H:106:LEU:H	1.56	0.67
3:H:128:PHE:CD2	3:H:148:VAL:HG21	2.30	0.67
3:H:51:VAL:HG23	3:H:58:VAL:HG12	1.77	0.66
4:L:18:ARG:HG2	4:L:76:SER:HB2	1.75	0.66
2:B:176:LYS:HD2	2:B:179:PRO:HA	1.78	0.66
4:L:33:VAL:HG22	4:L:51:SER:HB2	1.79	0.64
3:H:6:GLN:H	3:H:111:GLN:HE22	1.46	0.64
1:A:185:PHE:HE1	1:A:190:ALA:HB2	1.62	0.64
2:B:215:LEU:HD12	2:B:228:PRO:HD2	1.80	0.63
3:H:111:GLN:OE1	3:H:111:GLN:N	2.26	0.63
3:H:76:THR:HG23	3:H:78:THR:HG22	1.81	0.62
3:H:169:VAL:HA	3:H:188:VAL:HA	1.81	0.61
1:A:62:THR:OG1	1:A:77:ARG:NH2	2.35	0.60
4:L:195:GLU:OE2	4:L:204:PRO:HB3	2.02	0.59
4:L:10:PHE:HD2	4:L:103:LYS:H	1.51	0.58
3:H:152:PHE:HB2	3:H:181:LEU:HD23	1.86	0.58
1:A:121:PRO:HG3	1:A:196:ILE:HD11	1.85	0.58
4:L:158:ASN:ND2	4:L:180:THR:O	2.37	0.57
2:B:88:VAL:HG22	2:B:108:ARG:HG3	1.85	0.57
1:A:125:GLN:HB2	1:A:187:CYS:HB3	1.87	0.57
1:A:13:VAL:HG11	1:A:19:VAL:HG22	1.87	0.56
3:H:125:PRO:HB3	3:H:151:TYR:HD2	1.70	0.56
4:L:79:GLN:HG2	4:L:80:PRO:HD2	1.87	0.56
1:A:136:VAL:HG12	1:A:179:TRP:HB3	1.86	0.55
2:B:121:PRO:HB3	2:B:148:PHE:HB3	1.88	0.55
1:A:153:ASP:HB2	1:A:156:VAL:HG12	1.89	0.55
2:B:36:ARG:HB3	2:B:46:ILE:HD11	1.89	0.55
1:A:151:SER:HB3	1:A:158:ILE:HD12	1.88	0.55
4:L:34:VAL:HB	4:L:89:GLN:HG2	1.89	0.55
4:L:170:ASP:N	4:L:170:ASP:OD1	2.40	0.55
2:B:189:SER:OG	2:B:191:ARG:NH2	2.40	0.55
3:H:48:MET:HA	3:H:61:ASN:HB2	1.89	0.55
3:H:6:GLN:H	3:H:111:GLN:NE2	2.04	0.54
3:H:201:ILE:HG12	3:H:216:LYS:HG3	1.89	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:16:GLY:O	4:L:32:ARG:NH2	2.41	0.54
2:B:38:ASP:OD2	2:B:44:ARG:NH2	2.40	0.54
3:H:92:ALA:HB3	3:H:94:TYR:HE1	1.73	0.54
1:A:122:ALA:HA	1:A:198:GLU:HB3	1.90	0.54
2:B:125:VAL:HG23	2:B:235:ALA:HB3	1.89	0.54
3:H:174:ALA:HA	3:H:184:LEU:HB3	1.89	0.53
4:L:111:ALA:HB3	4:L:140:TYR:H	1.72	0.53
3:H:158:VAL:HG21	3:H:186:SER:HB2	1.91	0.52
2:B:128:PRO:HD3	2:B:141:LEU:HG	1.91	0.52
3:H:148:VAL:HB	3:H:149:LYS:CA	2.36	0.52
4:L:80:PRO:O	4:L:83:PHE:HB2	2.09	0.52
4:L:75:ILE:O	4:L:75:ILE:HG13	2.09	0.51
3:H:36:TRP:CD1	3:H:70:ILE:HD12	2.45	0.51
2:B:12:VAL:HG11	2:B:118:VAL:HG21	1.92	0.51
1:A:137:CYS:SG	1:A:187:CYS:HA	2.51	0.50
4:L:59:PRO:HB2	4:L:61:ARG:HG2	1.93	0.50
3:H:3:GLN:HG2	3:H:25:SER:HB3	1.94	0.50
3:H:111:GLN:HA	4:L:43:ALA:HB2	1.93	0.50
3:H:57:ASN:HD21	3:H:59:LYS:NZ	2.10	0.50
3:H:126:SER:O	3:H:148:VAL:HG23	2.13	0.49
4:L:83:PHE:CZ	4:L:106:ILE:HG13	2.48	0.49
4:L:136:LEU:HA	4:L:136:LEU:HD12	1.67	0.49
1:A:34:MET:HG2	2:B:100:PRO:HB3	1.94	0.48
4:L:7:SER:HA	4:L:9:SER:H	1.78	0.48
4:L:166:GLN:NE2	4:L:173:TYR:CZ	2.81	0.48
2:B:132:GLU:OE2	2:B:140:THR:OG1	2.25	0.48
3:H:85:SER:O	3:H:85:SER:OG	2.29	0.48
3:H:6:GLN:HE21	3:H:110:GLY:HA3	1.79	0.47
3:H:151:TYR:CE1	3:H:182:TYR:HB2	2.49	0.47
3:H:6:GLN:HG2	3:H:96:CYS:SG	2.55	0.47
3:H:6:GLN:NE2	3:H:96:CYS:H	2.12	0.47
1:A:81:PRO:HA	1:A:112:VAL:HB	1.96	0.47
3:H:176:LEU:HD23	3:H:182:TYR:CE2	2.49	0.47
1:A:22:SER:HB2	1:A:71:TYR:CE1	2.49	0.47
3:H:158:VAL:HG12	3:H:204:VAL:HG13	1.95	0.47
4:L:23:CYS:HB2	4:L:35:TRP:CH2	2.50	0.47
4:L:122:ASP:HA	4:L:125:LEU:HB2	1.96	0.47
4:L:35:TRP:CD2	4:L:73:LEU:HD12	2.50	0.46
2:B:15:THR:HG23	2:B:113:GLU:HA	1.97	0.46
4:L:24:LYS:HE3	4:L:24:LYS:HB3	1.65	0.46
3:H:10:GLU:HB2	3:H:115:VAL:HG22	1.96	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:98:ASN:OD1	1:A:101:LYS:NZ	2.49	0.45
1:A:141:ASP:OD1	2:B:193:ARG:NH1	2.44	0.45
2:B:181:LEU:HB2	2:B:184:SER:HB2	1.98	0.45
3:H:17:SER:OG	3:H:18:VAL:N	2.49	0.45
3:H:49:GLY:HA2	3:H:60:TYR:HA	1.97	0.45
3:H:35:HIS:HB3	3:H:47:TRP:HE1	1.81	0.45
2:B:159:VAL:HA	2:B:205:HIS:O	2.16	0.45
1:A:157:TYR:HB2	2:B:175:LEU:HD13	1.97	0.45
4:L:54:ARG:NH1	4:L:62:PHE:O	2.49	0.45
3:H:61:ASN:OD1	3:H:62:GLU:N	2.50	0.45
3:H:125:PRO:HD3	3:H:206:HIS:HD2	1.82	0.44
3:H:63:LYS:N	3:H:63:LYS:HD2	2.32	0.44
4:L:190:LYS:HA	4:L:211:ARG:HG3	1.99	0.44
1:A:162:THR:HG21	2:B:191:ARG:NH1	2.33	0.43
4:L:150:VAL:O	4:L:152:ASN:N	2.51	0.43
4:L:192:TYR:HD2	4:L:209:PHE:CZ	2.37	0.43
4:L:8:PRO:C	4:L:9:SER:HG	2.22	0.42
3:H:125:PRO:HB3	3:H:151:TYR:CD2	2.51	0.42
3:H:209:SER:OG	3:H:211:THR:OG1	2.34	0.42
4:L:111:ALA:HB3	4:L:140:TYR:N	2.34	0.42
4:L:38:GLN:O	4:L:84:ALA:HB1	2.20	0.42
2:B:109:LEU:HA	2:B:109:LEU:HD12	1.81	0.41
2:B:209:GLN:HG3	2:B:232:ILE:HG23	2.02	0.41
3:H:57:ASN:ND2	3:H:59:LYS:NZ	2.68	0.41
3:H:60:TYR:CE1	3:H:70:ILE:HG12	2.55	0.41
2:B:119:PHE:HD1	2:B:119:PHE:HA	1.78	0.41
2:B:57:GLN:HB3	2:B:61:PRO:HG3	2.02	0.41
2:B:162:LYS:HB2	2:B:162:LYS:HE2	1.65	0.41
4:L:11:LEU:HD11	4:L:19:VAL:HG21	2.02	0.41
2:B:11:GLN:HG3	2:B:12:VAL:N	2.35	0.41
3:H:4:LEU:HD23	3:H:24:ALA:HA	2.02	0.41
4:L:109:THR:HG22	4:L:110:VAL:H	1.85	0.41
1:A:26:SER:O	1:A:27:ASN:HB3	2.21	0.41
4:L:74:THR:HG22	4:L:76:SER:H	1.85	0.41
4:L:39:LYS:HD2	4:L:39:LYS:HA	1.84	0.40
4:L:35:TRP:CG	4:L:73:LEU:HD12	2.56	0.40
2:B:174:PRO:HB2	2:B:186:TYR:HB3	2.03	0.40
3:H:6:GLN:N	3:H:111:GLN:HE22	2.16	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	196/204 (96%)	185 (94%)	11 (6%)	0	100	100
2	B	239/242 (99%)	235 (98%)	4 (2%)	0	100	100
3	H	189/225 (84%)	177 (94%)	11 (6%)	1 (0%)	25	34
4	L	185/214 (86%)	165 (89%)	20 (11%)	0	100	100
All	All	809/885 (91%)	762 (94%)	46 (6%)	1 (0%)	48	61

All (1) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
3	H	148	VAL

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	174/180 (97%)	166 (95%)	8 (5%)	23	33
2	B	207/207 (100%)	194 (94%)	13 (6%)	15	19
3	H	155/192 (81%)	143 (92%)	12 (8%)	10	13
4	L	165/189 (87%)	154 (93%)	11 (7%)	13	17
All	All	701/768 (91%)	657 (94%)	44 (6%)	15	19

All (44) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	41	ARG
1	A	57	GLU
1	A	149	SER
1	A	155	ASP
1	A	157	TYR
1	A	160	ASP
1	A	168	SER
1	A	185	PHE
2	B	23	CYS
2	B	70	THR
2	B	71	THR
2	B	93	SER
2	B	114	ASP
2	B	119	PHE
2	B	134	SER
2	B	181	LEU
2	B	183	ASP
2	B	189	SER
2	B	191	ARG
2	B	217	GLU
2	B	224	ASP
3	H	7	SER
3	H	27	HIS
3	H	59	LYS
3	H	81	MET
3	H	85	SER
3	H	91	THR
3	H	113	THR
3	H	157	THR
3	H	187	VAL
3	H	189	THR
3	H	202	CYS
3	H	210	ASN
4	L	7	SER
4	L	50	SER
4	L	63	SER
4	L	83	PHE
4	L	89	GLN
4	L	92	LYS
4	L	105	GLU
4	L	139	PHE
4	L	156	SER
4	L	185	ASP

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Mol	Chain	Res	Type
4	L	192	TYR

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

Mol	Chain	Res	Type
1	A	80	GLN
1	A	117	GLN
1	A	125	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 oligosaccharides 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	198/204 (97%)	0.41	17 (8%)	18	21	41, 72, 134, 180	0
2	B	240/242 (99%)	0.13	3 (1%)	74	77	41, 77, 114, 149	1 (0%)
3	H	197/225 (87%)	1.17	43 (21%)	3	4	69, 133, 202, 222	0
4	L	199/214 (92%)	1.09	38 (19%)	4	5	61, 138, 190, 237	0
All	All	834/885 (94%)	0.67	101 (12%)	10	12	41, 91, 183, 237	1 (0%)

All (101) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
3	H	129	PRO	5.0
3	H	130	LEU	4.9
3	H	131	ALA	4.8
3	H	148	VAL	4.4
3	H	140	GLY	4.0
3	H	127	VAL	3.9
3	H	182	TYR	3.9
4	L	186	TYR	3.8
3	H	128	PHE	3.8
4	L	198	HIS	3.7
3	H	200	TYR	3.4
1	A	5	GLU	3.4
3	H	116	THR	3.4
4	L	175	LEU	3.4
1	A	195	ILE	3.4
4	L	130	ALA	3.3
3	H	122	THR	3.3
1	A	4	VAL	3.2
4	L	117	ILE	3.2
4	L	184	ALA	3.2
3	H	213	VAL	3.1

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Mol	Chain	Res	Type	RSRZ
4	L	150	VAL	3.1
3	H	144	LEU	3.1
3	H	145	GLY	3.1
3	H	184	LEU	3.1
1	A	198	GLU	3.1
3	H	165	LEU	3.1
3	H	147	LEU	2.9
1	A	196	ILE	2.9
4	L	132	VAL	2.9
3	H	13	LYS	2.9
4	L	179	LEU	2.8
3	H	216	LYS	2.8
4	L	136	LEU	2.8
4	L	87	PHE	2.8
1	A	194	SER	2.8
4	L	88	CYS	2.8
4	L	146	VAL	2.8
4	L	194	CYS	2.7
4	L	78	LEU	2.7
4	L	148	TRP	2.7
4	L	204	PRO	2.7
4	L	82	ASP	2.7
4	L	118	PHE	2.6
3	H	146	CYS	2.6
3	H	110	GLY	2.6
2	B	119	PHE	2.6
4	L	2	ILE	2.6
3	H	169	VAL	2.6
3	H	188	VAL	2.6
4	L	113	PRO	2.6
4	L	121	SER	2.5
1	A	51	TYR	2.5
3	H	163	GLY	2.5
4	L	104	LEU	2.4
4	L	119	PRO	2.4
3	H	114	THR	2.4
4	L	180	THR	2.4
4	L	206	THR	2.4
4	L	201	LEU	2.4
4	L	112	ALA	2.4
4	L	187	GLU	2.4
3	H	189	THR	2.4

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Mol	Chain	Res	Type	RSRZ
4	L	15	VAL	2.4
3	H	60	TYR	2.4
3	H	11	VAL	2.4
4	L	200	GLY	2.4
1	A	197	PRO	2.3
4	L	125	LEU	2.3
1	A	191	PHE	2.3
4	L	205	VAL	2.3
4	L	153	ALA	2.3
3	H	180	GLY	2.3
1	A	9	GLY	2.3
1	A	10	PRO	2.3
1	A	188	ALA	2.3
4	L	127	SER	2.2
2	B	123	VAL	2.2
3	H	156	VAL	2.2
1	A	200	THR	2.2
3	H	151	TYR	2.2
1	A	26	SER	2.2
3	H	91	THR	2.2
3	H	105	VAL	2.2
3	H	117	VAL	2.2
3	H	204	VAL	2.1
4	L	191	VAL	2.1
2	B	207[A]	ARG	2.1
3	H	171	THR	2.1
1	A	187	CYS	2.1
1	A	157	TYR	2.1
3	H	157	THR	2.1
3	H	126	SER	2.1
1	A	47	LEU	2.0
3	H	187	VAL	2.0
4	L	110	VAL	2.0
3	H	215	LYS	2.0
4	L	14	SER	2.0
3	H	201	ILE	2.0
3	H	125	PRO	2.0
3	H	172	PHE	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 ⓘ

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.