Full wwPDB X-ray Structure Validation Report (i)

Oct 4, 2023 – 09:15 PM EDT

PDB ID	:	6VME
Title	:	Human ESCRT-I heterotetramer headpiece
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Deposited on	:	2020-01-27
Resolution	:	2.19 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	:	FAILED
Xtriage (Phenix)	:	1.13
EDS	:	FAILED
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.35.1

1 Overall quality at a glance (i)

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

The reported resolution of this entry is 2.19 Å.

There are no overall percentile quality scores available for this entry.

MolProbity and EDS failed to run properly - the sequence quality summary graphics cannot be shown.

2 Entry composition (i)

There are 5 unique types of molecules in this entry. The entry contains 12786 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 Tumor susceptibility gene 101 protein.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	B	76	Total	C	N	O	S	0	0	0
			607	391	107	108	1			
1	F	77	Total	C	N	O	S	0	0	0
			615	397	108	109	1			
1	G	75	Total	C	N	O	S	0	0	0
			603	389	106	107	1			
1	H	76	Total	C	N	O	S	0	0	0
			607	392	106	108	1			
1	I	75	Total	C	N	O	S	0	0	0
			602	390	106	105	1			
1	J	76	Total	C	N	O	S	0	0	0
			604	390	107	106	1			

- Molecule 2 is a protein called Vacuolar protein sorting-associated protein 37B.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	C	67	Total	C	N	O	S	0	0	0
			527	331	88	105	3			
2	K	65	Total	C	N	O	S	0	0	0
			521	330	87	101	3			
2	L	65	Total	C	N	O	S	0	0	0
			517	328	87	99	3			
2	M	65	Total	C	N	O	S	0	0	0
			514	326	86	99	3			
2	N	67	Total	C	N	O	S	0	0	0
			530	334	88	105	3			
2	O	62	Total	C	N	O	S	0	0	0
			488	310	82	93	3			

- Molecule 3 is a protein called Multivesicular body subunit 12A.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	D	19	Total	C	N	O	S	0	0	0
			135	87	21	26	1			
3	P	20	Total	C	N	O	S	0	0	0
			137	89	20	27	1			
3	Q	18	Total	C	N	O	S	0	0	0
			118	75	18	24	1			
3	R	21	Total	C	N	O	S	0	0	0
			143	92	21	29	1			
3	A	20	Total	C	N	O	S	0	0	0
			135	87	20	27	1			
3	T	18	Total	C	N	O	S	0	0	0
			125	81	18	25	1			

There are 12 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
D	204	SER	-	expression tag	UNP Q96EY5
D	205	ASN	-	expression tag	UNP Q96EY5
P	204	SER	-	expression tag	UNP Q96EY5
P	205	ASN	-	expression tag	UNP Q96EY5
Q	204	SER	-	expression tag	UNP Q96EY5
Q	205	ASN	-	expression tag	UNP Q96EY5
R	204	SER	-	expression tag	UNP Q96EY5
R	205	ASN	-	expression tag	UNP Q96EY5
A	204	SER	-	expression tag	UNP Q96EY5
A	205	ASN	-	expression tag	UNP Q96EY5
T	204	SER	-	expression tag	UNP Q96EY5
T	205	ASN	-	expression tag	UNP Q96EY5

- Molecule 4 is a protein called Vacuolar protein sorting-associated protein 28 homolog.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
4	E	102	Total	C	N	O	S	0	0	0
			822	520	138	157	7			
4	U	102	Total	C	N	O	S	0	0	0
			827	524	141	155	7			
4	V	104	Total	C	N	O	S	0	0	0
			826	523	139	157	7			
4	W	105	Total	C	N	O	S	0	0	0
			840	530	143	160	7			
4	X	101	Total	C	N	O	S	0	0	0
			820	520	137	156	7			
4	Y	100	Total	C	N	O	S	0	0	0
			815	515	138	155	7			

- Molecule 5 is water.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
5	B	10	Total O 10 10	0	0
5	C	8	Total O 8 8	0	0
5	D	3	Total O 3 3	0	0
5	E	31	Total O 31 31	0	0
5	F	18	Total O 18 18	0	0
5	G	16	Total O 16 16	0	0
5	H	5	Total O 5 5	0	0
5	I	10	Total O 10 10	0	0
5	J	5	Total O 5 5	0	0
5	K	12	Total O 12 12	0	0
5	L	3	Total O 3 3	0	0
5	M	6	Total O 6 6	0	0
5	N	15	Total O 15 15	0	0
5	O	1	Total O 1 1	0	0
5	P	7	Total O 7 7	0	0
5	Q	2	Total O 2 2	0	0
5	R	2	Total O 2 2	0	0
5	A	10	Total O 10 10	0	0
5	U	34	Total O 34 34	0	0
5	V	37	Total O 37 37	0	0
5	W	22	Total O 22 22	0	0

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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
5	X	25	Total O 25 25	0	0
5	Y	26	Total O 26 26	0	0

MolProbity and EDS failed to run properly - this section is therefore empty.

3 Data and refinement statistics (i)

EDS failed to run properly - this section is therefore incomplete.

Property	Value	Source
Space group	P 61	Depositor
Cell constants a, b, c, α, β, γ	162.58Å 162.58Å 139.72Å 90.00° 90.00° 120.00°	Depositor
Resolution (Å)	99.18 – 2.19	Depositor
% Data completeness (in resolution range)	99.2 (99.18-2.19)	Depositor
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.07 (at 2.18Å)	Xtriage
Refinement program	PHENIX 1.17_3644	Depositor
R, R_{free}	0.193 , 0.240	Depositor
Wilson B-factor (Å^2)	41.7	Xtriage
Anisotropy	0.146	Xtriage
L-test for twinning[2]	$< \|L\| > = 0.41$, $< L^2 > = 0.23$	Xtriage
Estimated twinning fraction	0.088 for h,-h-k,-l	Xtriage
Total number of atoms	12786	wwPDB-VP
Average B, all atoms (Å^2)	61.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.31% 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.

4 Model quality

4.1 Standard geometry

MolProbity failed to run properly - this section is therefore empty.

4.2 Too-close contacts

MolProbity failed to run properly - this section is therefore empty.

4.3 Torsion angles

4.3.1 Protein backbone

MolProbity failed to run properly - this section is therefore empty.

4.3.2 Protein sidechains

MolProbity failed to run properly - this section is therefore empty.

4.3.3 RNA

MolProbity failed to run properly - this section is therefore empty.

4.4 Non-standard residues in protein, DNA, RNA chains

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

4.5 Carbohydrates

There are no monosaccharides in this entry.

4.6 Ligand geometry

There are no ligands in this entry.

4.7 Other polymers

There are no such residues in this entry.

4.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

5 Fit of model and data

5.1 Protein, DNA and RNA chains

EDS failed to run properly - this section is therefore empty.

5.2 Non-standard residues in protein, DNA, RNA chains

EDS failed to run properly - this section is therefore empty.

5.3 Carbohydrates

EDS failed to run properly - this section is therefore empty.

5.4 Ligands

EDS failed to run properly - this section is therefore empty.

5.5 Other polymers

EDS failed to run properly - this section is therefore empty.