



Full wwPDB X-ray Structure Validation Report ⓘ

Oct 3, 2023 – 08:48 AM EDT

PDB ID : 6UMG
Title : Crystal structure of erenumab Fab bound to the extracellular domain of CGRP receptor
Authors : Mohr, C.
Deposited on : 2019-10-09
Resolution : 2.70 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 ⓘ 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 ⓘ](#)) were used in the production of this report:

MolProbity : **FAILED**
Xtrriage (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

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 2.70 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 9813 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 erenumab Fab heavy chain, IgG1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	H	228	Total 1728	C 1095	N 292	O 333	S 8	0	0	0
1	h	219	Total 1669	C 1061	N 282	O 319	S 7	0	0	0

- Molecule 2 is a protein called erenumab Fab light chain, IgG1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
2	L	214	Total 1592	C 996	N 268	O 324	S 4	0	0	0
2	l	214	Total 1592	C 996	N 268	O 324	S 4	0	0	0

- Molecule 3 is a protein called Calcitonin gene-related peptide type 1 receptor.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
3	C	111	Total 906	C 560	N 154	O 183	S 9	0	0	0
3	c	111	Total 901	C 557	N 152	O 183	S 9	0	0	0

There are 56 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
C	-5	MET	-	expression tag	UNP Q16602
C	-4	SER	-	expression tag	UNP Q16602
C	-3	TYR	-	expression tag	UNP Q16602
C	-2	TYR	-	expression tag	UNP Q16602
C	-1	HIS	-	expression tag	UNP Q16602
C	0	HIS	-	expression tag	UNP Q16602
C	1	HIS	-	expression tag	UNP Q16602
C	2	HIS	-	expression tag	UNP Q16602

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Chain	Residue	Modelled	Actual	Comment	Reference
C	3	HIS	-	expression tag	UNP Q16602
C	4	HIS	-	expression tag	UNP Q16602
C	5	LEU	-	expression tag	UNP Q16602
C	6	GLU	-	expression tag	UNP Q16602
C	7	SER	-	expression tag	UNP Q16602
C	8	THR	-	expression tag	UNP Q16602
C	9	SER	-	expression tag	UNP Q16602
C	10	LEU	-	expression tag	UNP Q16602
C	11	TYR	-	expression tag	UNP Q16602
C	12	LYS	-	expression tag	UNP Q16602
C	13	LYS	-	expression tag	UNP Q16602
C	14	ALA	-	expression tag	UNP Q16602
C	15	GLY	-	expression tag	UNP Q16602
C	16	SER	-	expression tag	UNP Q16602
C	17	LEU	-	expression tag	UNP Q16602
C	18	VAL	-	expression tag	UNP Q16602
C	19	PRO	-	expression tag	UNP Q16602
C	20	ARG	-	expression tag	UNP Q16602
C	21	GLY	-	expression tag	UNP Q16602
C	22	SER	-	expression tag	UNP Q16602
c	-5	MET	-	expression tag	UNP Q16602
c	-4	SER	-	expression tag	UNP Q16602
c	-3	TYR	-	expression tag	UNP Q16602
c	-2	TYR	-	expression tag	UNP Q16602
c	-1	HIS	-	expression tag	UNP Q16602
c	0	HIS	-	expression tag	UNP Q16602
c	1	HIS	-	expression tag	UNP Q16602
c	2	HIS	-	expression tag	UNP Q16602
c	3	HIS	-	expression tag	UNP Q16602
c	4	HIS	-	expression tag	UNP Q16602
c	5	LEU	-	expression tag	UNP Q16602
c	6	GLU	-	expression tag	UNP Q16602
c	7	SER	-	expression tag	UNP Q16602
c	8	THR	-	expression tag	UNP Q16602
c	9	SER	-	expression tag	UNP Q16602
c	10	LEU	-	expression tag	UNP Q16602
c	11	TYR	-	expression tag	UNP Q16602
c	12	LYS	-	expression tag	UNP Q16602
c	13	LYS	-	expression tag	UNP Q16602
c	14	ALA	-	expression tag	UNP Q16602
c	15	GLY	-	expression tag	UNP Q16602
c	16	SER	-	expression tag	UNP Q16602

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Chain	Residue	Modelled	Actual	Comment	Reference
c	17	LEU	-	expression tag	UNP Q16602
c	18	VAL	-	expression tag	UNP Q16602
c	19	PRO	-	expression tag	UNP Q16602
c	20	ARG	-	expression tag	UNP Q16602
c	21	GLY	-	expression tag	UNP Q16602
c	22	SER	-	expression tag	UNP Q16602

- Molecule 4 is a protein called Receptor activity-modifying protein 1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
4	R	81	Total	C	N	O	S	0	0	0
			665	424	116	117	8			
4	r	81	Total	C	N	O	S	0	0	0
			665	424	116	117	8			

There are 56 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
R	-2	MET	-	expression tag	UNP O60894
R	-1	SER	-	expression tag	UNP O60894
R	0	TYR	-	expression tag	UNP O60894
R	1	TYR	-	expression tag	UNP O60894
R	2	HIS	-	expression tag	UNP O60894
R	3	HIS	-	expression tag	UNP O60894
R	4	HIS	-	expression tag	UNP O60894
R	5	HIS	-	expression tag	UNP O60894
R	6	HIS	-	expression tag	UNP O60894
R	7	HIS	-	expression tag	UNP O60894
R	8	LEU	-	expression tag	UNP O60894
R	9	GLU	-	expression tag	UNP O60894
R	10	SER	-	expression tag	UNP O60894
R	11	THR	-	expression tag	UNP O60894
R	12	SER	-	expression tag	UNP O60894
R	13	LEU	-	expression tag	UNP O60894
R	14	TYR	-	expression tag	UNP O60894
R	15	LYS	-	expression tag	UNP O60894
R	16	LYS	-	expression tag	UNP O60894
R	17	ALA	-	expression tag	UNP O60894
R	18	GLY	-	expression tag	UNP O60894
R	19	SER	-	expression tag	UNP O60894
R	20	LEU	-	expression tag	UNP O60894
R	21	VAL	-	expression tag	UNP O60894

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Chain	Residue	Modelled	Actual	Comment	Reference
R	22	PRO	-	expression tag	UNP O60894
R	23	ARG	-	expression tag	UNP O60894
R	24	GLY	-	expression tag	UNP O60894
R	25	SER	-	expression tag	UNP O60894
r	-2	MET	-	expression tag	UNP O60894
r	-1	SER	-	expression tag	UNP O60894
r	0	TYR	-	expression tag	UNP O60894
r	1	TYR	-	expression tag	UNP O60894
r	2	HIS	-	expression tag	UNP O60894
r	3	HIS	-	expression tag	UNP O60894
r	4	HIS	-	expression tag	UNP O60894
r	5	HIS	-	expression tag	UNP O60894
r	6	HIS	-	expression tag	UNP O60894
r	7	HIS	-	expression tag	UNP O60894
r	8	LEU	-	expression tag	UNP O60894
r	9	GLU	-	expression tag	UNP O60894
r	10	SER	-	expression tag	UNP O60894
r	11	THR	-	expression tag	UNP O60894
r	12	SER	-	expression tag	UNP O60894
r	13	LEU	-	expression tag	UNP O60894
r	14	TYR	-	expression tag	UNP O60894
r	15	LYS	-	expression tag	UNP O60894
r	16	LYS	-	expression tag	UNP O60894
r	17	ALA	-	expression tag	UNP O60894
r	18	GLY	-	expression tag	UNP O60894
r	19	SER	-	expression tag	UNP O60894
r	20	LEU	-	expression tag	UNP O60894
r	21	VAL	-	expression tag	UNP O60894
r	22	PRO	-	expression tag	UNP O60894
r	23	ARG	-	expression tag	UNP O60894
r	24	GLY	-	expression tag	UNP O60894
r	25	SER	-	expression tag	UNP O60894

- Molecule 5 is water.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
5	H	19	Total O 19 19	0	0
5	L	15	Total O 15 15	0	0
5	C	15	Total O 15 15	0	0

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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
5	R	4	Total O 4 4	0	0
5	h	12	Total O 12 12	0	0
5	l	13	Total O 13 13	0	0
5	c	14	Total O 14 14	0	0
5	r	3	Total O 3 3	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 1 21 1	Depositor
Cell constants a, b, c, α , β , γ	70.46Å 112.52Å 77.25Å 90.00° 91.84° 90.00°	Depositor
Resolution (Å)	30.00 – 2.70	Depositor
% Data completeness (in resolution range)	99.7 (30.00-2.70)	Depositor
R_{merge}	0.14	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	2.26 (at 2.72Å)	Xtrriage
Refinement program	REFMAC 5.8.0073	Depositor
R, R_{free}	0.245 , 0.282	Depositor
Wilson B-factor (Å ²)	36.0	Xtrriage
Anisotropy	0.121	Xtrriage
L-test for twinning ²	$\langle L \rangle = 0.49$, $\langle L^2 \rangle = 0.33$	Xtrriage
Estimated twinning fraction	0.127 for h,-k,-l	Xtrriage
Total number of atoms	9813	wwPDB-VP
Average B, all atoms (Å ²)	37.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.70% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

²Theoretical values of $\langle |L| \rangle$, $\langle L^2 \rangle$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

4 Model quality [i](#)

4.1 Standard geometry [i](#)

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

4.2 Too-close contacts [i](#)

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

4.3 Torsion angles [i](#)

4.3.1 Protein backbone [i](#)

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

4.3.2 Protein sidechains [i](#)

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

4.3.3 RNA [i](#)

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

4.4 Non-standard residues in protein, DNA, RNA chains [i](#)

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

4.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

4.6 Ligand geometry [i](#)

There are no ligands in this entry.

4.7 Other polymers [i](#)

There are no such residues in this entry.

4.8 Polymer linkage issues

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.