



Full wwPDB EM Validation Report ⓘ

Mar 23, 2026 – 10:45 PM UTC

PDB ID : 7EWP / pdb_00007ewp
EMDB ID : EMD-31360
Title : Cryo-EM structure of human GPR158 in complex with RGS7-Gbeta5 in a 2:1:1 ratio
Authors : Kim, Y.; Jeong, E.; Jeong, J.; Cho, Y.
Deposited on : 2021-05-25
Resolution : 4.30 Å(reported)

This is a Full wwPDB EM 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/EMValidationReportHelp>
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:

EMDB validation analysis : 0.0.1.dev132
MolProbity : **FAILED**
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics : 202505.v01 (Using data in the EMDb archive up until May 2025)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.49

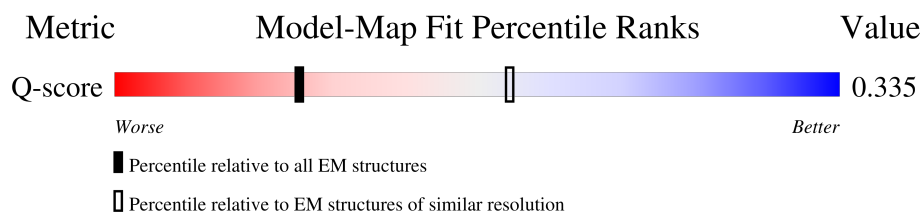
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 4.30 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	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Q-score	25397	4585 (3.80 - 4.80)

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

2 Entry composition

There are 3 unique types of molecules in this entry. The entry contains 20179 atoms, of which 6804 are hydrogens and 0 are deuteriums.

In the tables below, 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 Probable G-protein coupled receptor 158.

Mol	Chain	Residues	Atoms						AltConf	Trace
1	A	577	Total	C	H	N	O	S	0	0
			7323	2520	3393	690	693	27		
1	B	504	Total	C	H	N	O	S	0	0
			6959	2293	3411	612	617	26		

There are 550 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	864	ARG	-	expression tag	UNP Q5T848
A	865	GLY	-	expression tag	UNP Q5T848
A	866	ARG	-	expression tag	UNP Q5T848
A	867	LEU	-	expression tag	UNP Q5T848
A	868	GLU	-	expression tag	UNP Q5T848
A	869	VAL	-	expression tag	UNP Q5T848
A	870	LEU	-	expression tag	UNP Q5T848
A	871	PHE	-	expression tag	UNP Q5T848
A	872	GLN	-	expression tag	UNP Q5T848
A	873	GLY	-	expression tag	UNP Q5T848
A	874	PRO	-	expression tag	UNP Q5T848
A	875	GLY	-	expression tag	UNP Q5T848
A	876	GLY	-	expression tag	UNP Q5T848
A	877	SER	-	expression tag	UNP Q5T848
A	878	MET	-	expression tag	UNP Q5T848
A	879	SER	-	expression tag	UNP Q5T848
A	880	LYS	-	expression tag	UNP Q5T848
A	881	GLY	-	expression tag	UNP Q5T848
A	882	GLU	-	expression tag	UNP Q5T848
A	883	GLU	-	expression tag	UNP Q5T848
A	884	LEU	-	expression tag	UNP Q5T848
A	885	PHE	-	expression tag	UNP Q5T848
A	886	THR	-	expression tag	UNP Q5T848
A	887	GLY	-	expression tag	UNP Q5T848
A	888	VAL	-	expression tag	UNP Q5T848
A	889	VAL	-	expression tag	UNP Q5T848

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Chain	Residue	Modelled	Actual	Comment	Reference
A	890	PRO	-	expression tag	UNP Q5T848
A	891	ILE	-	expression tag	UNP Q5T848
A	892	LEU	-	expression tag	UNP Q5T848
A	893	VAL	-	expression tag	UNP Q5T848
A	894	GLU	-	expression tag	UNP Q5T848
A	895	LEU	-	expression tag	UNP Q5T848
A	896	ASP	-	expression tag	UNP Q5T848
A	897	GLY	-	expression tag	UNP Q5T848
A	898	ASP	-	expression tag	UNP Q5T848
A	899	VAL	-	expression tag	UNP Q5T848
A	900	ASN	-	expression tag	UNP Q5T848
A	901	GLY	-	expression tag	UNP Q5T848
A	902	HIS	-	expression tag	UNP Q5T848
A	903	LYS	-	expression tag	UNP Q5T848
A	904	PHE	-	expression tag	UNP Q5T848
A	905	SER	-	expression tag	UNP Q5T848
A	906	VAL	-	expression tag	UNP Q5T848
A	907	ARG	-	expression tag	UNP Q5T848
A	908	GLY	-	expression tag	UNP Q5T848
A	909	GLU	-	expression tag	UNP Q5T848
A	910	GLY	-	expression tag	UNP Q5T848
A	911	GLU	-	expression tag	UNP Q5T848
A	912	GLY	-	expression tag	UNP Q5T848
A	913	ASP	-	expression tag	UNP Q5T848
A	914	ALA	-	expression tag	UNP Q5T848
A	915	THR	-	expression tag	UNP Q5T848
A	916	ASN	-	expression tag	UNP Q5T848
A	917	GLY	-	expression tag	UNP Q5T848
A	918	LYS	-	expression tag	UNP Q5T848
A	919	LEU	-	expression tag	UNP Q5T848
A	920	THR	-	expression tag	UNP Q5T848
A	921	LEU	-	expression tag	UNP Q5T848
A	922	LYS	-	expression tag	UNP Q5T848
A	923	PHE	-	expression tag	UNP Q5T848
A	924	ILE	-	expression tag	UNP Q5T848
A	925	CYS	-	expression tag	UNP Q5T848
A	926	THR	-	expression tag	UNP Q5T848
A	927	THR	-	expression tag	UNP Q5T848
A	928	GLY	-	expression tag	UNP Q5T848
A	929	LYS	-	expression tag	UNP Q5T848
A	930	LEU	-	expression tag	UNP Q5T848
A	931	PRO	-	expression tag	UNP Q5T848

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Chain	Residue	Modelled	Actual	Comment	Reference
A	932	VAL	-	expression tag	UNP Q5T848
A	933	PRO	-	expression tag	UNP Q5T848
A	934	TRP	-	expression tag	UNP Q5T848
A	935	PRO	-	expression tag	UNP Q5T848
A	936	THR	-	expression tag	UNP Q5T848
A	937	LEU	-	expression tag	UNP Q5T848
A	938	VAL	-	expression tag	UNP Q5T848
A	939	THR	-	expression tag	UNP Q5T848
A	940	THR	-	expression tag	UNP Q5T848
A	941	LEU	-	expression tag	UNP Q5T848
A	942	THR	-	expression tag	UNP Q5T848
A	943	TYR	-	expression tag	UNP Q5T848
A	944	GLY	-	expression tag	UNP Q5T848
A	945	VAL	-	expression tag	UNP Q5T848
A	946	GLN	-	expression tag	UNP Q5T848
A	947	CYS	-	expression tag	UNP Q5T848
A	948	PHE	-	expression tag	UNP Q5T848
A	949	SER	-	expression tag	UNP Q5T848
A	950	ARG	-	expression tag	UNP Q5T848
A	951	TYR	-	expression tag	UNP Q5T848
A	952	PRO	-	expression tag	UNP Q5T848
A	953	ASP	-	expression tag	UNP Q5T848
A	954	HIS	-	expression tag	UNP Q5T848
A	955	MET	-	expression tag	UNP Q5T848
A	956	LYS	-	expression tag	UNP Q5T848
A	957	ARG	-	expression tag	UNP Q5T848
A	958	HIS	-	expression tag	UNP Q5T848
A	959	ASP	-	expression tag	UNP Q5T848
A	960	PHE	-	expression tag	UNP Q5T848
A	961	PHE	-	expression tag	UNP Q5T848
A	962	LYS	-	expression tag	UNP Q5T848
A	963	SER	-	expression tag	UNP Q5T848
A	964	ALA	-	expression tag	UNP Q5T848
A	965	MET	-	expression tag	UNP Q5T848
A	966	PRO	-	expression tag	UNP Q5T848
A	967	GLU	-	expression tag	UNP Q5T848
A	968	GLY	-	expression tag	UNP Q5T848
A	969	TYR	-	expression tag	UNP Q5T848
A	970	VAL	-	expression tag	UNP Q5T848
A	971	GLN	-	expression tag	UNP Q5T848
A	972	GLU	-	expression tag	UNP Q5T848
A	973	ARG	-	expression tag	UNP Q5T848

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Chain	Residue	Modelled	Actual	Comment	Reference
A	974	THR	-	expression tag	UNP Q5T848
A	975	ILE	-	expression tag	UNP Q5T848
A	976	SER	-	expression tag	UNP Q5T848
A	977	PHE	-	expression tag	UNP Q5T848
A	978	LYS	-	expression tag	UNP Q5T848
A	979	ASP	-	expression tag	UNP Q5T848
A	980	ASP	-	expression tag	UNP Q5T848
A	981	GLY	-	expression tag	UNP Q5T848
A	982	THR	-	expression tag	UNP Q5T848
A	983	TYR	-	expression tag	UNP Q5T848
A	984	LYS	-	expression tag	UNP Q5T848
A	985	THR	-	expression tag	UNP Q5T848
A	986	ARG	-	expression tag	UNP Q5T848
A	987	ALA	-	expression tag	UNP Q5T848
A	988	GLU	-	expression tag	UNP Q5T848
A	989	VAL	-	expression tag	UNP Q5T848
A	990	LYS	-	expression tag	UNP Q5T848
A	991	PHE	-	expression tag	UNP Q5T848
A	992	GLU	-	expression tag	UNP Q5T848
A	993	GLY	-	expression tag	UNP Q5T848
A	994	ASP	-	expression tag	UNP Q5T848
A	995	THR	-	expression tag	UNP Q5T848
A	996	LEU	-	expression tag	UNP Q5T848
A	997	VAL	-	expression tag	UNP Q5T848
A	998	ASN	-	expression tag	UNP Q5T848
A	999	ARG	-	expression tag	UNP Q5T848
A	1000	ILE	-	expression tag	UNP Q5T848
A	1001	GLU	-	expression tag	UNP Q5T848
A	1002	LEU	-	expression tag	UNP Q5T848
A	1003	LYS	-	expression tag	UNP Q5T848
A	1004	GLY	-	expression tag	UNP Q5T848
A	1005	ILE	-	expression tag	UNP Q5T848
A	1006	ASP	-	expression tag	UNP Q5T848
A	1007	PHE	-	expression tag	UNP Q5T848
A	1008	LYS	-	expression tag	UNP Q5T848
A	1009	GLU	-	expression tag	UNP Q5T848
A	1010	ASP	-	expression tag	UNP Q5T848
A	1011	GLY	-	expression tag	UNP Q5T848
A	1012	ASN	-	expression tag	UNP Q5T848
A	1013	ILE	-	expression tag	UNP Q5T848
A	1014	LEU	-	expression tag	UNP Q5T848
A	1015	GLY	-	expression tag	UNP Q5T848

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Chain	Residue	Modelled	Actual	Comment	Reference
A	1016	HIS	-	expression tag	UNP Q5T848
A	1017	LYS	-	expression tag	UNP Q5T848
A	1018	LEU	-	expression tag	UNP Q5T848
A	1019	GLU	-	expression tag	UNP Q5T848
A	1020	TYR	-	expression tag	UNP Q5T848
A	1021	ASN	-	expression tag	UNP Q5T848
A	1022	PHE	-	expression tag	UNP Q5T848
A	1023	ASN	-	expression tag	UNP Q5T848
A	1024	SER	-	expression tag	UNP Q5T848
A	1025	HIS	-	expression tag	UNP Q5T848
A	1026	ASN	-	expression tag	UNP Q5T848
A	1027	VAL	-	expression tag	UNP Q5T848
A	1028	TYR	-	expression tag	UNP Q5T848
A	1029	ILE	-	expression tag	UNP Q5T848
A	1030	THR	-	expression tag	UNP Q5T848
A	1031	ALA	-	expression tag	UNP Q5T848
A	1032	ASP	-	expression tag	UNP Q5T848
A	1033	LYS	-	expression tag	UNP Q5T848
A	1034	GLN	-	expression tag	UNP Q5T848
A	1035	LYS	-	expression tag	UNP Q5T848
A	1036	ASN	-	expression tag	UNP Q5T848
A	1037	GLY	-	expression tag	UNP Q5T848
A	1038	ILE	-	expression tag	UNP Q5T848
A	1039	LYS	-	expression tag	UNP Q5T848
A	1040	ALA	-	expression tag	UNP Q5T848
A	1041	ASN	-	expression tag	UNP Q5T848
A	1042	PHE	-	expression tag	UNP Q5T848
A	1043	LYS	-	expression tag	UNP Q5T848
A	1044	ILE	-	expression tag	UNP Q5T848
A	1045	ARG	-	expression tag	UNP Q5T848
A	1046	HIS	-	expression tag	UNP Q5T848
A	1047	ASN	-	expression tag	UNP Q5T848
A	1048	VAL	-	expression tag	UNP Q5T848
A	1049	GLU	-	expression tag	UNP Q5T848
A	1050	ASP	-	expression tag	UNP Q5T848
A	1051	GLY	-	expression tag	UNP Q5T848
A	1052	SER	-	expression tag	UNP Q5T848
A	1053	VAL	-	expression tag	UNP Q5T848
A	1054	GLN	-	expression tag	UNP Q5T848
A	1055	LEU	-	expression tag	UNP Q5T848
A	1056	ALA	-	expression tag	UNP Q5T848
A	1057	ASP	-	expression tag	UNP Q5T848

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Chain	Residue	Modelled	Actual	Comment	Reference
A	1058	HIS	-	expression tag	UNP Q5T848
A	1059	TYR	-	expression tag	UNP Q5T848
A	1060	GLN	-	expression tag	UNP Q5T848
A	1061	GLN	-	expression tag	UNP Q5T848
A	1062	ASN	-	expression tag	UNP Q5T848
A	1063	THR	-	expression tag	UNP Q5T848
A	1064	PRO	-	expression tag	UNP Q5T848
A	1065	ILE	-	expression tag	UNP Q5T848
A	1066	GLY	-	expression tag	UNP Q5T848
A	1067	ASP	-	expression tag	UNP Q5T848
A	1068	GLY	-	expression tag	UNP Q5T848
A	1069	PRO	-	expression tag	UNP Q5T848
A	1070	VAL	-	expression tag	UNP Q5T848
A	1071	LEU	-	expression tag	UNP Q5T848
A	1072	LEU	-	expression tag	UNP Q5T848
A	1073	PRO	-	expression tag	UNP Q5T848
A	1074	ASP	-	expression tag	UNP Q5T848
A	1075	ASN	-	expression tag	UNP Q5T848
A	1076	HIS	-	expression tag	UNP Q5T848
A	1077	TYR	-	expression tag	UNP Q5T848
A	1078	LEU	-	expression tag	UNP Q5T848
A	1079	SER	-	expression tag	UNP Q5T848
A	1080	THR	-	expression tag	UNP Q5T848
A	1081	GLN	-	expression tag	UNP Q5T848
A	1082	SER	-	expression tag	UNP Q5T848
A	1083	VAL	-	expression tag	UNP Q5T848
A	1084	LEU	-	expression tag	UNP Q5T848
A	1085	SER	-	expression tag	UNP Q5T848
A	1086	LYS	-	expression tag	UNP Q5T848
A	1087	ASP	-	expression tag	UNP Q5T848
A	1088	PRO	-	expression tag	UNP Q5T848
A	1089	ASN	-	expression tag	UNP Q5T848
A	1090	GLU	-	expression tag	UNP Q5T848
A	1091	LYS	-	expression tag	UNP Q5T848
A	1092	ARG	-	expression tag	UNP Q5T848
A	1093	ASP	-	expression tag	UNP Q5T848
A	1094	HIS	-	expression tag	UNP Q5T848
A	1095	MET	-	expression tag	UNP Q5T848
A	1096	VAL	-	expression tag	UNP Q5T848
A	1097	LEU	-	expression tag	UNP Q5T848
A	1098	LEU	-	expression tag	UNP Q5T848
A	1099	GLU	-	expression tag	UNP Q5T848

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Chain	Residue	Modelled	Actual	Comment	Reference
A	1100	PHE	-	expression tag	UNP Q5T848
A	1101	VAL	-	expression tag	UNP Q5T848
A	1102	THR	-	expression tag	UNP Q5T848
A	1103	ALA	-	expression tag	UNP Q5T848
A	1104	ALA	-	expression tag	UNP Q5T848
A	1105	GLY	-	expression tag	UNP Q5T848
A	1106	ILE	-	expression tag	UNP Q5T848
A	1107	THR	-	expression tag	UNP Q5T848
A	1108	HIS	-	expression tag	UNP Q5T848
A	1109	GLY	-	expression tag	UNP Q5T848
A	1110	GLY	-	expression tag	UNP Q5T848
A	1111	SER	-	expression tag	UNP Q5T848
A	1112	TRP	-	expression tag	UNP Q5T848
A	1113	SER	-	expression tag	UNP Q5T848
A	1114	HIS	-	expression tag	UNP Q5T848
A	1115	PRO	-	expression tag	UNP Q5T848
A	1116	GLN	-	expression tag	UNP Q5T848
A	1117	PHE	-	expression tag	UNP Q5T848
A	1118	GLU	-	expression tag	UNP Q5T848
A	1119	LYS	-	expression tag	UNP Q5T848
A	1120	GLY	-	expression tag	UNP Q5T848
A	1121	GLY	-	expression tag	UNP Q5T848
A	1122	GLY	-	expression tag	UNP Q5T848
A	1123	SER	-	expression tag	UNP Q5T848
A	1124	GLY	-	expression tag	UNP Q5T848
A	1125	GLY	-	expression tag	UNP Q5T848
A	1126	GLY	-	expression tag	UNP Q5T848
A	1127	SER	-	expression tag	UNP Q5T848
A	1128	GLY	-	expression tag	UNP Q5T848
A	1129	GLY	-	expression tag	UNP Q5T848
A	1130	SER	-	expression tag	UNP Q5T848
A	1131	ALA	-	expression tag	UNP Q5T848
A	1132	TRP	-	expression tag	UNP Q5T848
A	1133	SER	-	expression tag	UNP Q5T848
A	1134	HIS	-	expression tag	UNP Q5T848
A	1135	PRO	-	expression tag	UNP Q5T848
A	1136	GLN	-	expression tag	UNP Q5T848
A	1137	PHE	-	expression tag	UNP Q5T848
A	1138	GLU	-	expression tag	UNP Q5T848
B	864	ARG	-	expression tag	UNP Q5T848
B	865	GLY	-	expression tag	UNP Q5T848
B	866	ARG	-	expression tag	UNP Q5T848

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Chain	Residue	Modelled	Actual	Comment	Reference
B	867	LEU	-	expression tag	UNP Q5T848
B	868	GLU	-	expression tag	UNP Q5T848
B	869	VAL	-	expression tag	UNP Q5T848
B	870	LEU	-	expression tag	UNP Q5T848
B	871	PHE	-	expression tag	UNP Q5T848
B	872	GLN	-	expression tag	UNP Q5T848
B	873	GLY	-	expression tag	UNP Q5T848
B	874	PRO	-	expression tag	UNP Q5T848
B	875	GLY	-	expression tag	UNP Q5T848
B	876	GLY	-	expression tag	UNP Q5T848
B	877	SER	-	expression tag	UNP Q5T848
B	878	MET	-	expression tag	UNP Q5T848
B	879	SER	-	expression tag	UNP Q5T848
B	880	LYS	-	expression tag	UNP Q5T848
B	881	GLY	-	expression tag	UNP Q5T848
B	882	GLU	-	expression tag	UNP Q5T848
B	883	GLU	-	expression tag	UNP Q5T848
B	884	LEU	-	expression tag	UNP Q5T848
B	885	PHE	-	expression tag	UNP Q5T848
B	886	THR	-	expression tag	UNP Q5T848
B	887	GLY	-	expression tag	UNP Q5T848
B	888	VAL	-	expression tag	UNP Q5T848
B	889	VAL	-	expression tag	UNP Q5T848
B	890	PRO	-	expression tag	UNP Q5T848
B	891	ILE	-	expression tag	UNP Q5T848
B	892	LEU	-	expression tag	UNP Q5T848
B	893	VAL	-	expression tag	UNP Q5T848
B	894	GLU	-	expression tag	UNP Q5T848
B	895	LEU	-	expression tag	UNP Q5T848
B	896	ASP	-	expression tag	UNP Q5T848
B	897	GLY	-	expression tag	UNP Q5T848
B	898	ASP	-	expression tag	UNP Q5T848
B	899	VAL	-	expression tag	UNP Q5T848
B	900	ASN	-	expression tag	UNP Q5T848
B	901	GLY	-	expression tag	UNP Q5T848
B	902	HIS	-	expression tag	UNP Q5T848
B	903	LYS	-	expression tag	UNP Q5T848
B	904	PHE	-	expression tag	UNP Q5T848
B	905	SER	-	expression tag	UNP Q5T848
B	906	VAL	-	expression tag	UNP Q5T848
B	907	ARG	-	expression tag	UNP Q5T848
B	908	GLY	-	expression tag	UNP Q5T848

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Chain	Residue	Modelled	Actual	Comment	Reference
B	909	GLU	-	expression tag	UNP Q5T848
B	910	GLY	-	expression tag	UNP Q5T848
B	911	GLU	-	expression tag	UNP Q5T848
B	912	GLY	-	expression tag	UNP Q5T848
B	913	ASP	-	expression tag	UNP Q5T848
B	914	ALA	-	expression tag	UNP Q5T848
B	915	THR	-	expression tag	UNP Q5T848
B	916	ASN	-	expression tag	UNP Q5T848
B	917	GLY	-	expression tag	UNP Q5T848
B	918	LYS	-	expression tag	UNP Q5T848
B	919	LEU	-	expression tag	UNP Q5T848
B	920	THR	-	expression tag	UNP Q5T848
B	921	LEU	-	expression tag	UNP Q5T848
B	922	LYS	-	expression tag	UNP Q5T848
B	923	PHE	-	expression tag	UNP Q5T848
B	924	ILE	-	expression tag	UNP Q5T848
B	925	CYS	-	expression tag	UNP Q5T848
B	926	THR	-	expression tag	UNP Q5T848
B	927	THR	-	expression tag	UNP Q5T848
B	928	GLY	-	expression tag	UNP Q5T848
B	929	LYS	-	expression tag	UNP Q5T848
B	930	LEU	-	expression tag	UNP Q5T848
B	931	PRO	-	expression tag	UNP Q5T848
B	932	VAL	-	expression tag	UNP Q5T848
B	933	PRO	-	expression tag	UNP Q5T848
B	934	TRP	-	expression tag	UNP Q5T848
B	935	PRO	-	expression tag	UNP Q5T848
B	936	THR	-	expression tag	UNP Q5T848
B	937	LEU	-	expression tag	UNP Q5T848
B	938	VAL	-	expression tag	UNP Q5T848
B	939	THR	-	expression tag	UNP Q5T848
B	940	THR	-	expression tag	UNP Q5T848
B	941	LEU	-	expression tag	UNP Q5T848
B	942	THR	-	expression tag	UNP Q5T848
B	943	TYR	-	expression tag	UNP Q5T848
B	944	GLY	-	expression tag	UNP Q5T848
B	945	VAL	-	expression tag	UNP Q5T848
B	946	GLN	-	expression tag	UNP Q5T848
B	947	CYS	-	expression tag	UNP Q5T848
B	948	PHE	-	expression tag	UNP Q5T848
B	949	SER	-	expression tag	UNP Q5T848
B	950	ARG	-	expression tag	UNP Q5T848

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Chain	Residue	Modelled	Actual	Comment	Reference
B	951	TYR	-	expression tag	UNP Q5T848
B	952	PRO	-	expression tag	UNP Q5T848
B	953	ASP	-	expression tag	UNP Q5T848
B	954	HIS	-	expression tag	UNP Q5T848
B	955	MET	-	expression tag	UNP Q5T848
B	956	LYS	-	expression tag	UNP Q5T848
B	957	ARG	-	expression tag	UNP Q5T848
B	958	HIS	-	expression tag	UNP Q5T848
B	959	ASP	-	expression tag	UNP Q5T848
B	960	PHE	-	expression tag	UNP Q5T848
B	961	PHE	-	expression tag	UNP Q5T848
B	962	LYS	-	expression tag	UNP Q5T848
B	963	SER	-	expression tag	UNP Q5T848
B	964	ALA	-	expression tag	UNP Q5T848
B	965	MET	-	expression tag	UNP Q5T848
B	966	PRO	-	expression tag	UNP Q5T848
B	967	GLU	-	expression tag	UNP Q5T848
B	968	GLY	-	expression tag	UNP Q5T848
B	969	TYR	-	expression tag	UNP Q5T848
B	970	VAL	-	expression tag	UNP Q5T848
B	971	GLN	-	expression tag	UNP Q5T848
B	972	GLU	-	expression tag	UNP Q5T848
B	973	ARG	-	expression tag	UNP Q5T848
B	974	THR	-	expression tag	UNP Q5T848
B	975	ILE	-	expression tag	UNP Q5T848
B	976	SER	-	expression tag	UNP Q5T848
B	977	PHE	-	expression tag	UNP Q5T848
B	978	LYS	-	expression tag	UNP Q5T848
B	979	ASP	-	expression tag	UNP Q5T848
B	980	ASP	-	expression tag	UNP Q5T848
B	981	GLY	-	expression tag	UNP Q5T848
B	982	THR	-	expression tag	UNP Q5T848
B	983	TYR	-	expression tag	UNP Q5T848
B	984	LYS	-	expression tag	UNP Q5T848
B	985	THR	-	expression tag	UNP Q5T848
B	986	ARG	-	expression tag	UNP Q5T848
B	987	ALA	-	expression tag	UNP Q5T848
B	988	GLU	-	expression tag	UNP Q5T848
B	989	VAL	-	expression tag	UNP Q5T848
B	990	LYS	-	expression tag	UNP Q5T848
B	991	PHE	-	expression tag	UNP Q5T848
B	992	GLU	-	expression tag	UNP Q5T848

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Chain	Residue	Modelled	Actual	Comment	Reference
B	993	GLY	-	expression tag	UNP Q5T848
B	994	ASP	-	expression tag	UNP Q5T848
B	995	THR	-	expression tag	UNP Q5T848
B	996	LEU	-	expression tag	UNP Q5T848
B	997	VAL	-	expression tag	UNP Q5T848
B	998	ASN	-	expression tag	UNP Q5T848
B	999	ARG	-	expression tag	UNP Q5T848
B	1000	ILE	-	expression tag	UNP Q5T848
B	1001	GLU	-	expression tag	UNP Q5T848
B	1002	LEU	-	expression tag	UNP Q5T848
B	1003	LYS	-	expression tag	UNP Q5T848
B	1004	GLY	-	expression tag	UNP Q5T848
B	1005	ILE	-	expression tag	UNP Q5T848
B	1006	ASP	-	expression tag	UNP Q5T848
B	1007	PHE	-	expression tag	UNP Q5T848
B	1008	LYS	-	expression tag	UNP Q5T848
B	1009	GLU	-	expression tag	UNP Q5T848
B	1010	ASP	-	expression tag	UNP Q5T848
B	1011	GLY	-	expression tag	UNP Q5T848
B	1012	ASN	-	expression tag	UNP Q5T848
B	1013	ILE	-	expression tag	UNP Q5T848
B	1014	LEU	-	expression tag	UNP Q5T848
B	1015	GLY	-	expression tag	UNP Q5T848
B	1016	HIS	-	expression tag	UNP Q5T848
B	1017	LYS	-	expression tag	UNP Q5T848
B	1018	LEU	-	expression tag	UNP Q5T848
B	1019	GLU	-	expression tag	UNP Q5T848
B	1020	TYR	-	expression tag	UNP Q5T848
B	1021	ASN	-	expression tag	UNP Q5T848
B	1022	PHE	-	expression tag	UNP Q5T848
B	1023	ASN	-	expression tag	UNP Q5T848
B	1024	SER	-	expression tag	UNP Q5T848
B	1025	HIS	-	expression tag	UNP Q5T848
B	1026	ASN	-	expression tag	UNP Q5T848
B	1027	VAL	-	expression tag	UNP Q5T848
B	1028	TYR	-	expression tag	UNP Q5T848
B	1029	ILE	-	expression tag	UNP Q5T848
B	1030	THR	-	expression tag	UNP Q5T848
B	1031	ALA	-	expression tag	UNP Q5T848
B	1032	ASP	-	expression tag	UNP Q5T848
B	1033	LYS	-	expression tag	UNP Q5T848
B	1034	GLN	-	expression tag	UNP Q5T848

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Chain	Residue	Modelled	Actual	Comment	Reference
B	1035	LYS	-	expression tag	UNP Q5T848
B	1036	ASN	-	expression tag	UNP Q5T848
B	1037	GLY	-	expression tag	UNP Q5T848
B	1038	ILE	-	expression tag	UNP Q5T848
B	1039	LYS	-	expression tag	UNP Q5T848
B	1040	ALA	-	expression tag	UNP Q5T848
B	1041	ASN	-	expression tag	UNP Q5T848
B	1042	PHE	-	expression tag	UNP Q5T848
B	1043	LYS	-	expression tag	UNP Q5T848
B	1044	ILE	-	expression tag	UNP Q5T848
B	1045	ARG	-	expression tag	UNP Q5T848
B	1046	HIS	-	expression tag	UNP Q5T848
B	1047	ASN	-	expression tag	UNP Q5T848
B	1048	VAL	-	expression tag	UNP Q5T848
B	1049	GLU	-	expression tag	UNP Q5T848
B	1050	ASP	-	expression tag	UNP Q5T848
B	1051	GLY	-	expression tag	UNP Q5T848
B	1052	SER	-	expression tag	UNP Q5T848
B	1053	VAL	-	expression tag	UNP Q5T848
B	1054	GLN	-	expression tag	UNP Q5T848
B	1055	LEU	-	expression tag	UNP Q5T848
B	1056	ALA	-	expression tag	UNP Q5T848
B	1057	ASP	-	expression tag	UNP Q5T848
B	1058	HIS	-	expression tag	UNP Q5T848
B	1059	TYR	-	expression tag	UNP Q5T848
B	1060	GLN	-	expression tag	UNP Q5T848
B	1061	GLN	-	expression tag	UNP Q5T848
B	1062	ASN	-	expression tag	UNP Q5T848
B	1063	THR	-	expression tag	UNP Q5T848
B	1064	PRO	-	expression tag	UNP Q5T848
B	1065	ILE	-	expression tag	UNP Q5T848
B	1066	GLY	-	expression tag	UNP Q5T848
B	1067	ASP	-	expression tag	UNP Q5T848
B	1068	GLY	-	expression tag	UNP Q5T848
B	1069	PRO	-	expression tag	UNP Q5T848
B	1070	VAL	-	expression tag	UNP Q5T848
B	1071	LEU	-	expression tag	UNP Q5T848
B	1072	LEU	-	expression tag	UNP Q5T848
B	1073	PRO	-	expression tag	UNP Q5T848
B	1074	ASP	-	expression tag	UNP Q5T848
B	1075	ASN	-	expression tag	UNP Q5T848
B	1076	HIS	-	expression tag	UNP Q5T848

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Chain	Residue	Modelled	Actual	Comment	Reference
B	1077	TYR	-	expression tag	UNP Q5T848
B	1078	LEU	-	expression tag	UNP Q5T848
B	1079	SER	-	expression tag	UNP Q5T848
B	1080	THR	-	expression tag	UNP Q5T848
B	1081	GLN	-	expression tag	UNP Q5T848
B	1082	SER	-	expression tag	UNP Q5T848
B	1083	VAL	-	expression tag	UNP Q5T848
B	1084	LEU	-	expression tag	UNP Q5T848
B	1085	SER	-	expression tag	UNP Q5T848
B	1086	LYS	-	expression tag	UNP Q5T848
B	1087	ASP	-	expression tag	UNP Q5T848
B	1088	PRO	-	expression tag	UNP Q5T848
B	1089	ASN	-	expression tag	UNP Q5T848
B	1090	GLU	-	expression tag	UNP Q5T848
B	1091	LYS	-	expression tag	UNP Q5T848
B	1092	ARG	-	expression tag	UNP Q5T848
B	1093	ASP	-	expression tag	UNP Q5T848
B	1094	HIS	-	expression tag	UNP Q5T848
B	1095	MET	-	expression tag	UNP Q5T848
B	1096	VAL	-	expression tag	UNP Q5T848
B	1097	LEU	-	expression tag	UNP Q5T848
B	1098	LEU	-	expression tag	UNP Q5T848
B	1099	GLU	-	expression tag	UNP Q5T848
B	1100	PHE	-	expression tag	UNP Q5T848
B	1101	VAL	-	expression tag	UNP Q5T848
B	1102	THR	-	expression tag	UNP Q5T848
B	1103	ALA	-	expression tag	UNP Q5T848
B	1104	ALA	-	expression tag	UNP Q5T848
B	1105	GLY	-	expression tag	UNP Q5T848
B	1106	ILE	-	expression tag	UNP Q5T848
B	1107	THR	-	expression tag	UNP Q5T848
B	1108	HIS	-	expression tag	UNP Q5T848
B	1109	GLY	-	expression tag	UNP Q5T848
B	1110	GLY	-	expression tag	UNP Q5T848
B	1111	SER	-	expression tag	UNP Q5T848
B	1112	TRP	-	expression tag	UNP Q5T848
B	1113	SER	-	expression tag	UNP Q5T848
B	1114	HIS	-	expression tag	UNP Q5T848
B	1115	PRO	-	expression tag	UNP Q5T848
B	1116	GLN	-	expression tag	UNP Q5T848
B	1117	PHE	-	expression tag	UNP Q5T848
B	1118	GLU	-	expression tag	UNP Q5T848

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Chain	Residue	Modelled	Actual	Comment	Reference
B	1119	LYS	-	expression tag	UNP Q5T848
B	1120	GLY	-	expression tag	UNP Q5T848
B	1121	GLY	-	expression tag	UNP Q5T848
B	1122	GLY	-	expression tag	UNP Q5T848
B	1123	SER	-	expression tag	UNP Q5T848
B	1124	GLY	-	expression tag	UNP Q5T848
B	1125	GLY	-	expression tag	UNP Q5T848
B	1126	GLY	-	expression tag	UNP Q5T848
B	1127	SER	-	expression tag	UNP Q5T848
B	1128	GLY	-	expression tag	UNP Q5T848
B	1129	GLY	-	expression tag	UNP Q5T848
B	1130	SER	-	expression tag	UNP Q5T848
B	1131	ALA	-	expression tag	UNP Q5T848
B	1132	TRP	-	expression tag	UNP Q5T848
B	1133	SER	-	expression tag	UNP Q5T848
B	1134	HIS	-	expression tag	UNP Q5T848
B	1135	PRO	-	expression tag	UNP Q5T848
B	1136	GLN	-	expression tag	UNP Q5T848
B	1137	PHE	-	expression tag	UNP Q5T848
B	1138	GLU	-	expression tag	UNP Q5T848

- Molecule 2 is a protein called Regulator of G-protein signaling 7.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	C	396	Total	C	N	O	S	0	0
			3288	2106	556	614	12		

There are 35 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
C	496	ARG	-	expression tag	UNP P49802
C	497	GLY	-	expression tag	UNP P49802
C	498	ARG	-	expression tag	UNP P49802
C	499	GLY	-	expression tag	UNP P49802
C	500	GLY	-	expression tag	UNP P49802
C	501	SER	-	expression tag	UNP P49802
C	502	GLU	-	expression tag	UNP P49802
C	503	ASN	-	expression tag	UNP P49802
C	504	LEU	-	expression tag	UNP P49802
C	505	TYR	-	expression tag	UNP P49802
C	506	PHE	-	expression tag	UNP P49802
C	507	GLN	-	expression tag	UNP P49802

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Chain	Residue	Modelled	Actual	Comment	Reference
C	508	GLY	-	expression tag	UNP P49802
C	509	GLY	-	expression tag	UNP P49802
C	510	SER	-	expression tag	UNP P49802
C	511	GLY	-	expression tag	UNP P49802
C	512	SER	-	expression tag	UNP P49802
C	513	GLY	-	expression tag	UNP P49802
C	514	GLY	-	expression tag	UNP P49802
C	515	ASP	-	expression tag	UNP P49802
C	516	TYR	-	expression tag	UNP P49802
C	517	LYS	-	expression tag	UNP P49802
C	518	ASP	-	expression tag	UNP P49802
C	519	ASP	-	expression tag	UNP P49802
C	520	ASP	-	expression tag	UNP P49802
C	521	ASP	-	expression tag	UNP P49802
C	522	LYS	-	expression tag	UNP P49802
C	523	ASP	-	expression tag	UNP P49802
C	524	TYR	-	expression tag	UNP P49802
C	525	LYS	-	expression tag	UNP P49802
C	526	ASP	-	expression tag	UNP P49802
C	527	ASP	-	expression tag	UNP P49802
C	528	ASP	-	expression tag	UNP P49802
C	529	ASP	-	expression tag	UNP P49802
C	530	LYS	-	expression tag	UNP P49802

- Molecule 3 is a protein called Guanine nucleotide-binding protein subunit beta-5.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	D	339	Total	C	N	O	S	0	0
			2609	1624	455	507	23		

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

3 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	362999	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TALOS ARCTICA	Depositor
Voltage (kV)	200	Depositor
Electron dose ($e^-/\text{\AA}^2$)	50	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	2.056	Depositor
Minimum map value	-1.387	Depositor
Average map value	-0.001	Depositor
Map value standard deviation	0.038	Depositor
Recommended contour level	0.371	Depositor
Map size ($\text{\AA}$)	374.48248, 374.48248, 374.48248	wwPDB
Map dimensions	350, 350, 350	wwPDB
Map angles ($^\circ$)	90.0, 90.0, 90.0	wwPDB
Pixel spacing ($\text{\AA}$)	1.06995, 1.06995, 1.06995	Depositor

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 oligosaccharides 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.

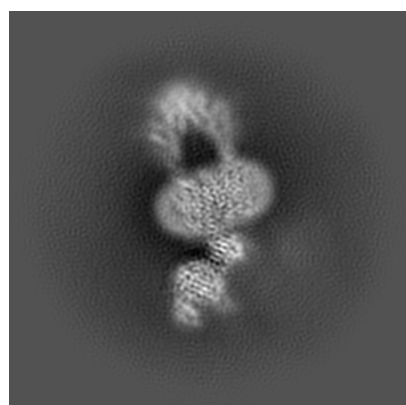
5 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-31360. These allow visual inspection of the internal detail of the map and identification of artifacts.

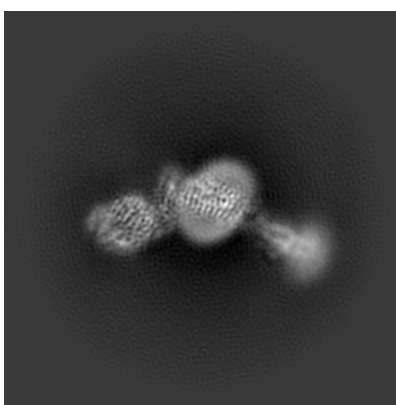
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

5.1 Orthogonal projections [i](#)

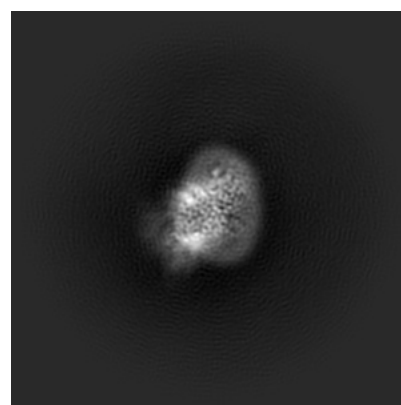
5.1.1 Primary map



X



Y

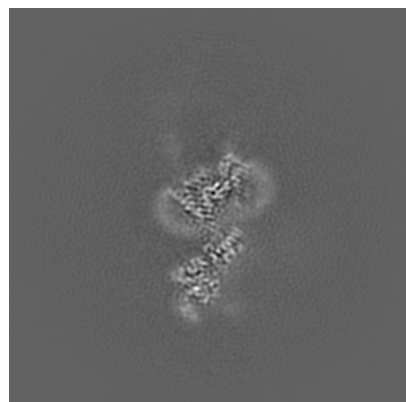


Z

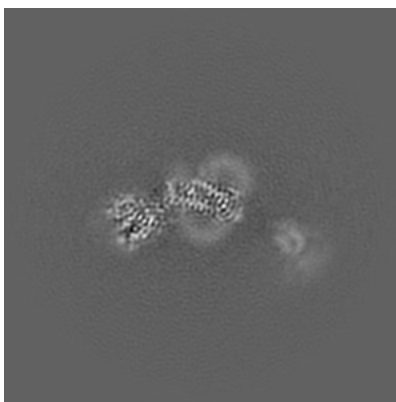
The images above show the map projected in three orthogonal directions.

5.2 Central slices [i](#)

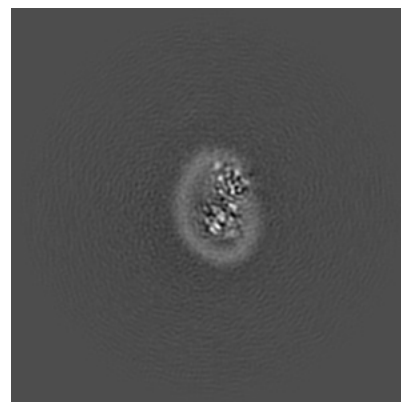
5.2.1 Primary map



X Index: 175



Y Index: 175

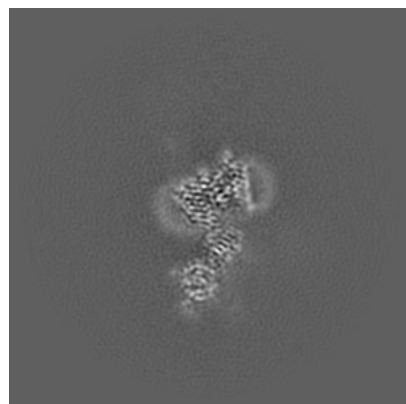


Z Index: 175

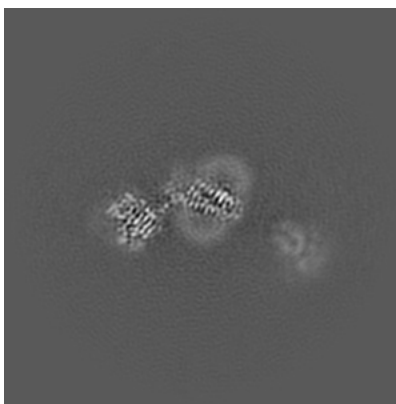
The images above show central slices of the map in three orthogonal directions.

5.3 Largest variance slices [i](#)

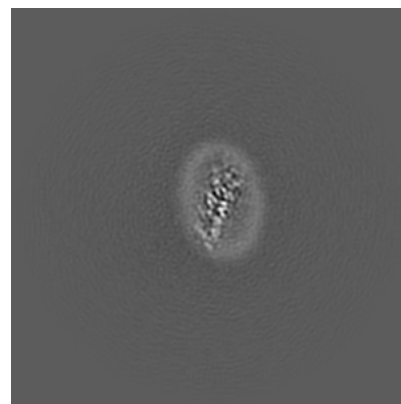
5.3.1 Primary map



X Index: 179



Y Index: 173

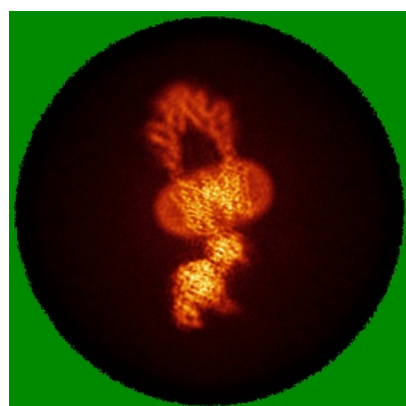


Z Index: 190

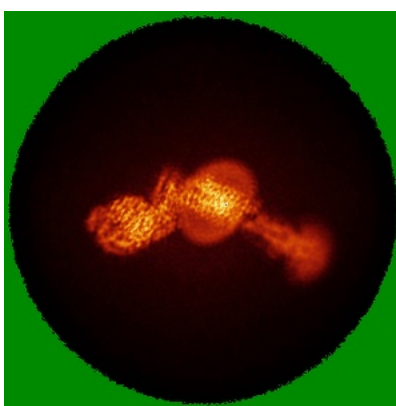
The images above show the largest variance slices of the map in three orthogonal directions.

5.4 Orthogonal standard-deviation projections (False-color) [i](#)

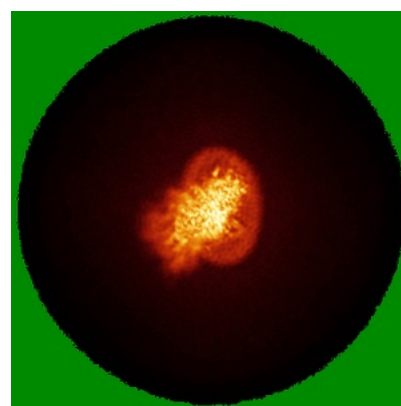
5.4.1 Primary map



X



Y



Z

The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

5.5 Orthogonal surface views [i](#)

5.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.371. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

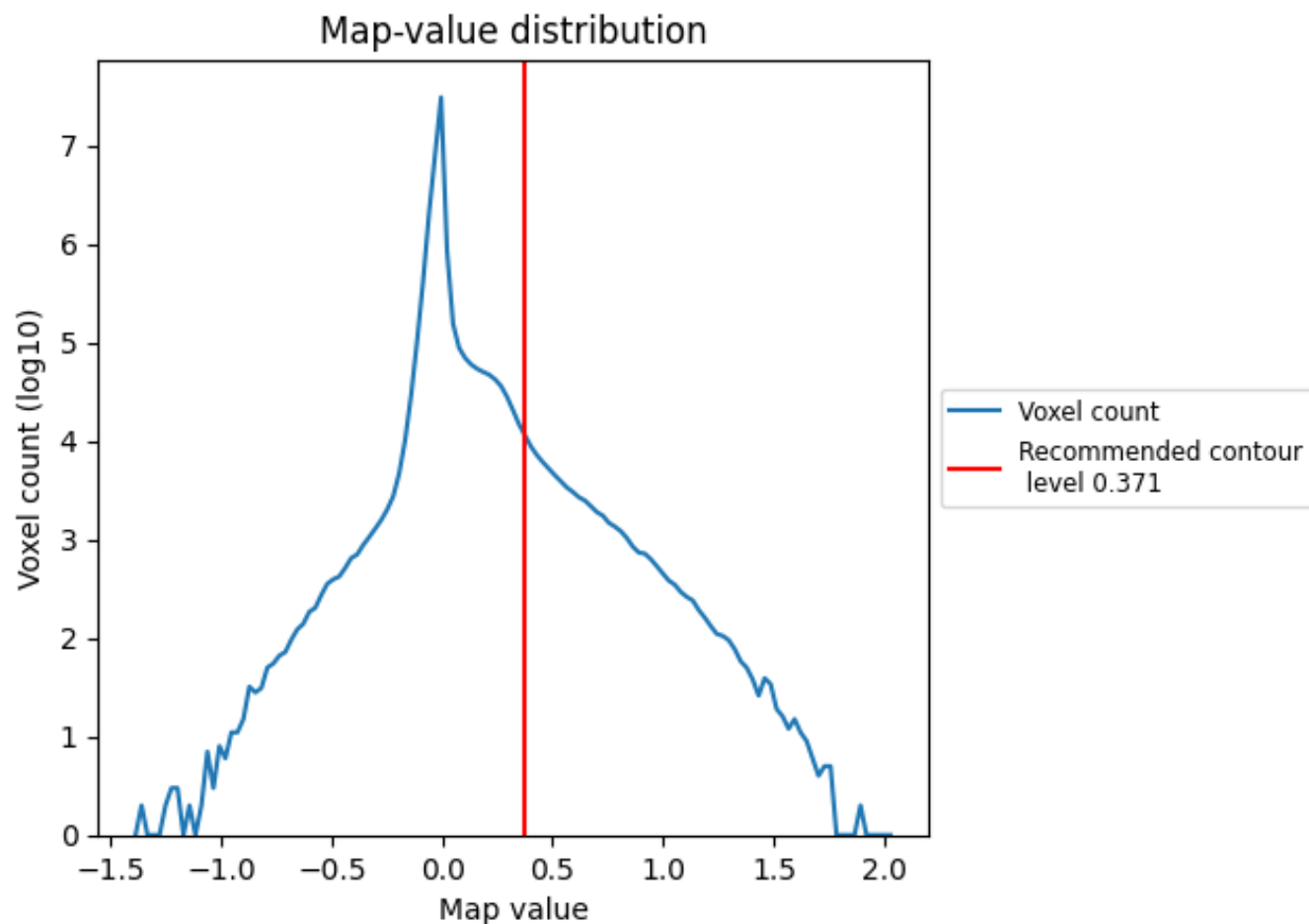
5.6 Mask visualisation [i](#)

This section was not generated. No masks/segmentation were deposited.

6 Map analysis [i](#)

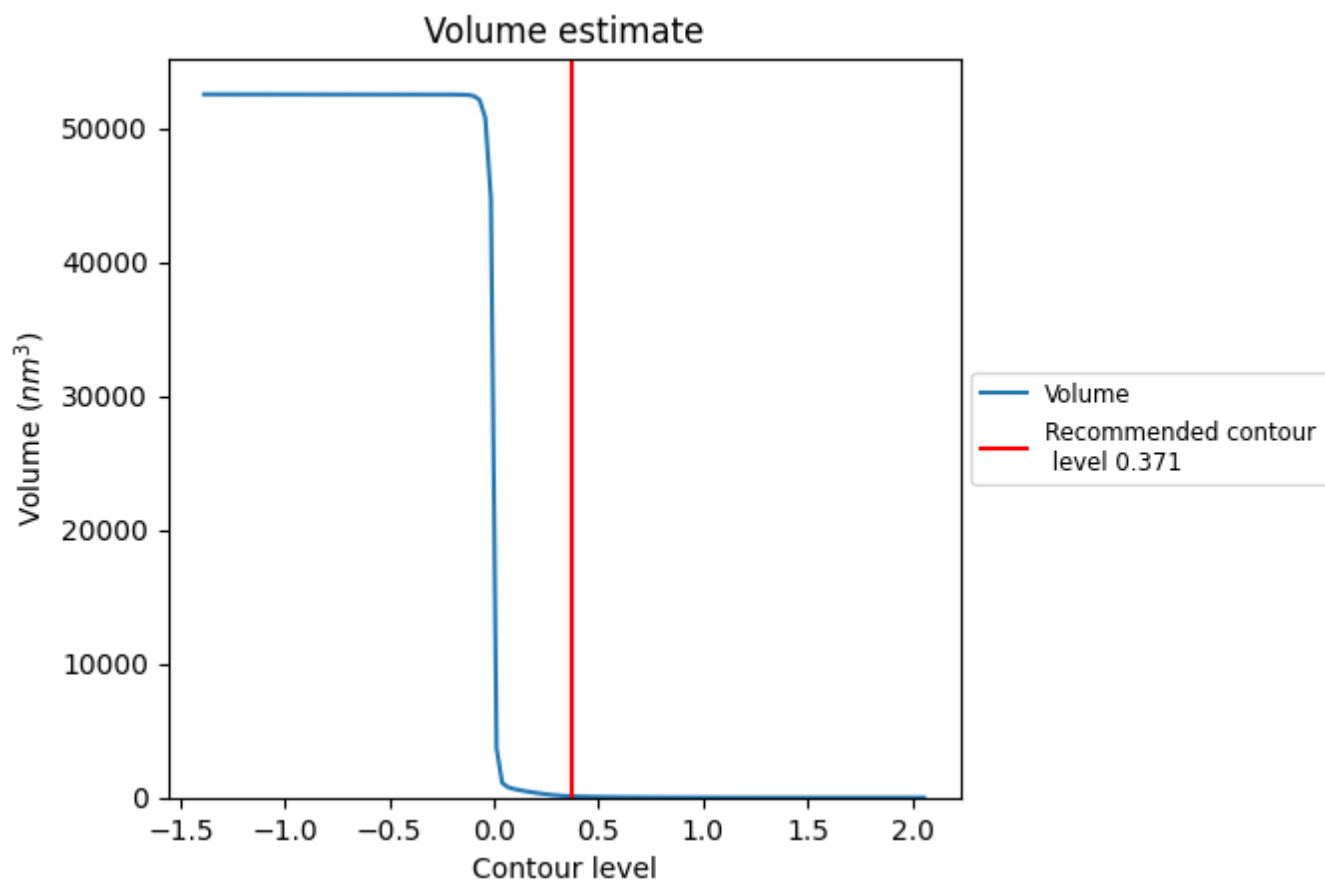
This section contains the results of statistical analysis of the map.

6.1 Map-value distribution [i](#)



The map-value distribution is plotted in 128 intervals along the x-axis. The y-axis is logarithmic. A spike in this graph at zero usually indicates that the volume has been masked.

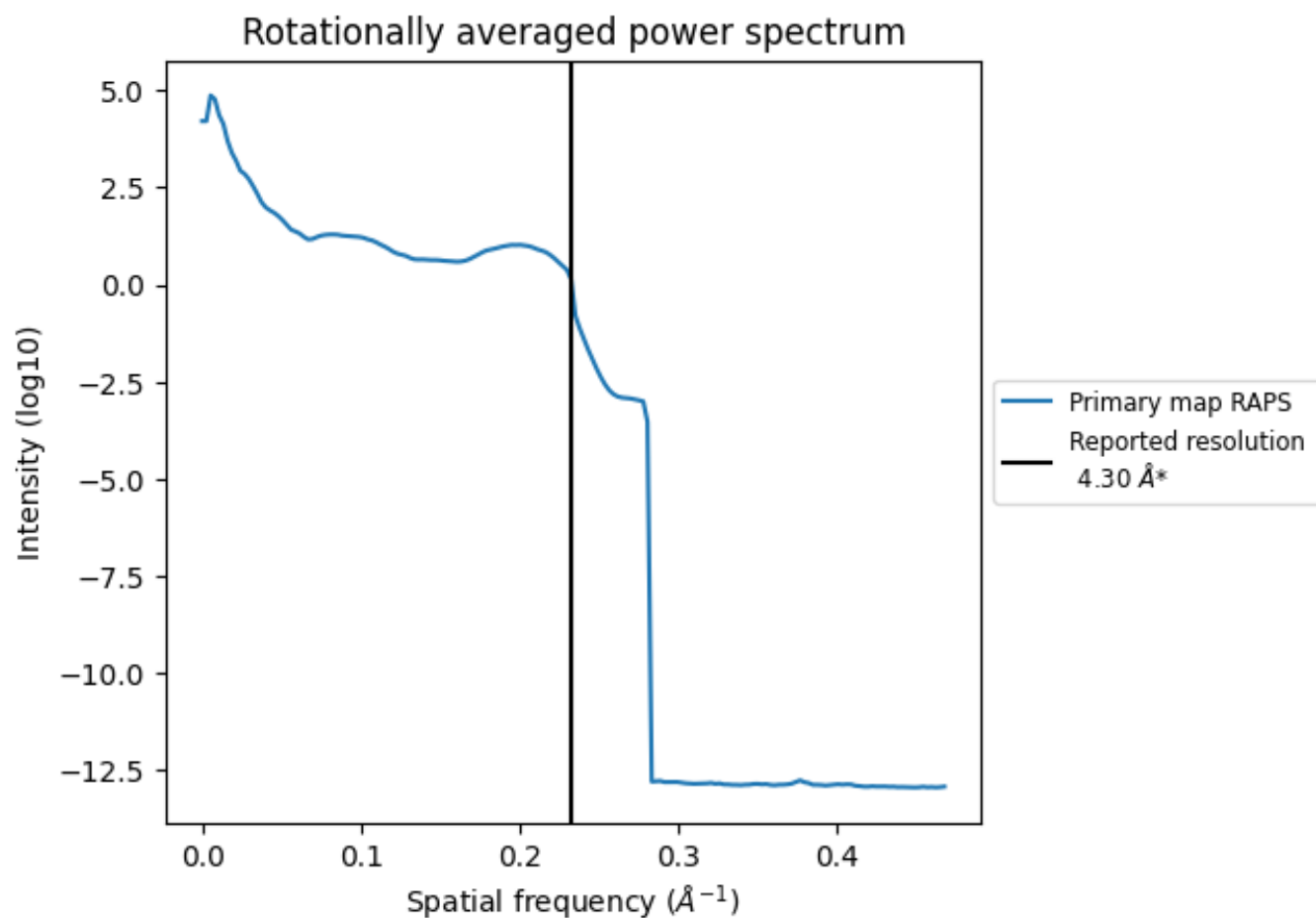
6.2 Volume estimate [i](#)



The volume at the recommended contour level is 96 nm³; this corresponds to an approximate mass of 87 kDa.

The volume estimate graph shows how the enclosed volume varies with the contour level. The recommended contour level is shown as a vertical line and the intersection between the line and the curve gives the volume of the enclosed surface at the given level.

6.3 Rotationally averaged power spectrum ⓘ



*Reported resolution corresponds to spatial frequency of 0.233 Å⁻¹

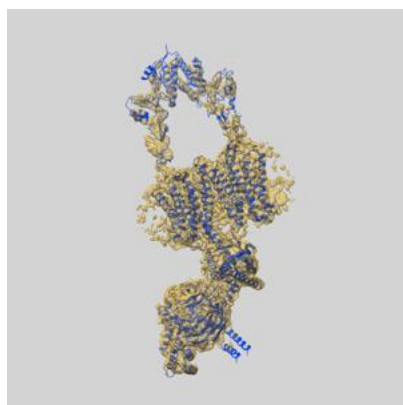
7 Fourier-Shell correlation ⓘ

This section was not generated. No FSC curve or half-maps provided.

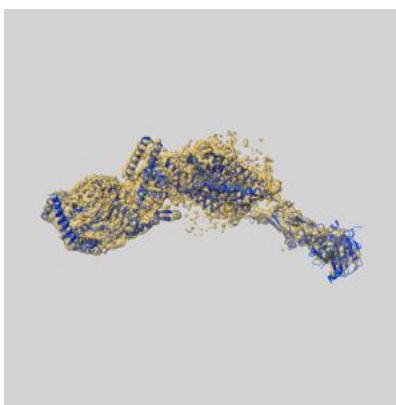
8 Map-model fit [i](#)

This section contains information regarding the fit between EMDB map EMD-31360 and PDB model 7EWP. Per-residue inclusion information can be found in section ?? on page ??.

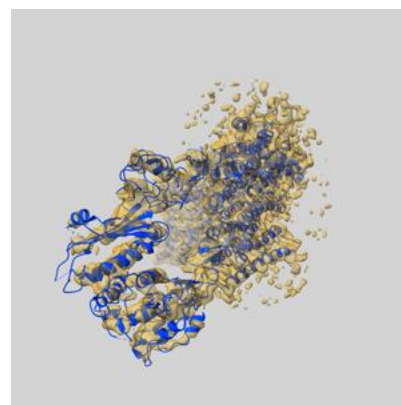
8.1 Map-model overlay [i](#)



X



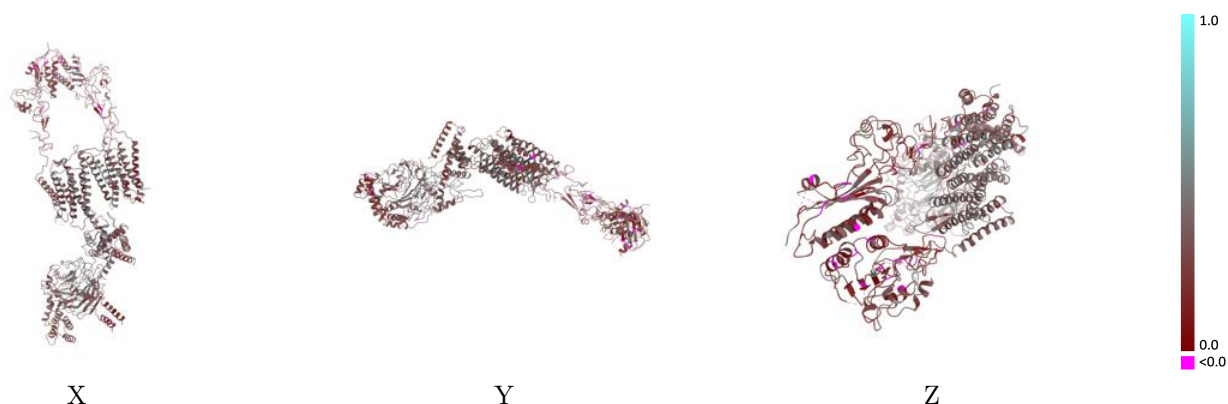
Y



Z

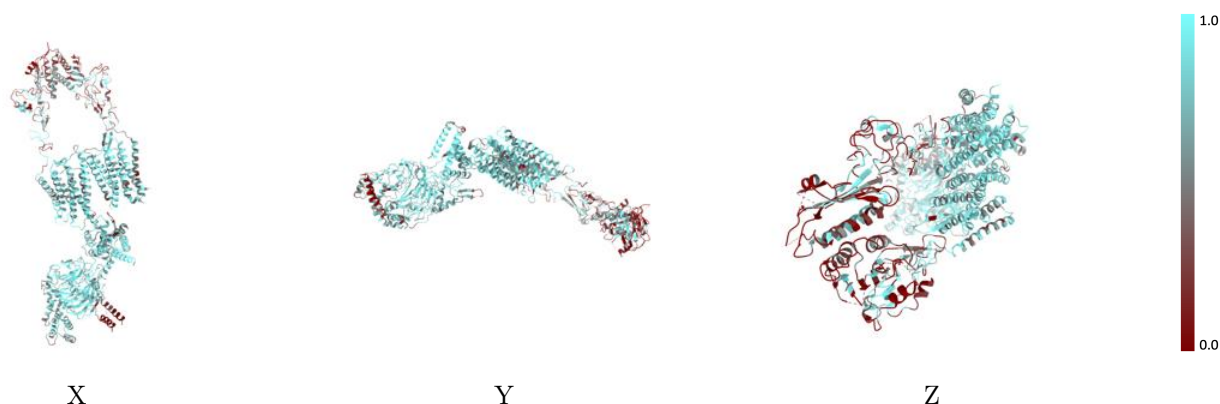
The images above show the 3D surface view of the map at the recommended contour level 0.371 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

8.2 Q-score mapped to coordinate model [i](#)



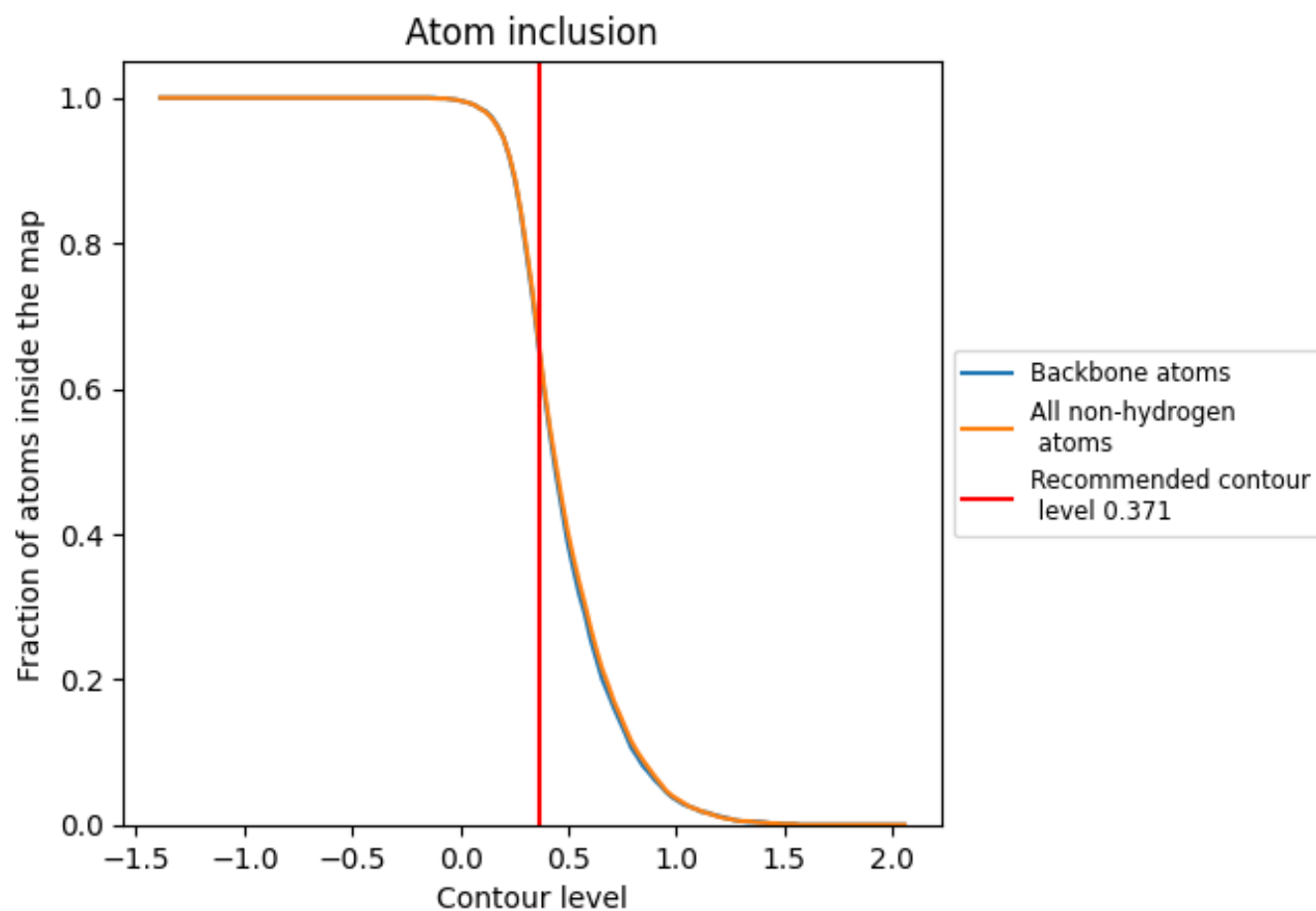
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions at which atoms can be resolved. Low Q-score values may therefore be expected for many entries.

8.3 Atom inclusion mapped to coordinate model [i](#)



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.371).

8.4 Atom inclusion [i](#)



At the recommended contour level, 64% of all backbone atoms, 64% of all non-hydrogen atoms, are inside the map.

8.5 Map-model fit summary ⓘ

The table lists the average atom inclusion at the recommended contour level (0.371) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.6430	0.3350
A	0.6090	0.3100
B	0.5690	0.3070
C	0.6820	0.3520
D	0.7560	0.3890

