



wwPDB EM Validation Summary Report ⓘ

Mar 8, 2026 – 01:09 PM UTC

EMDB ID : EMD-10050
Title : Structure of the E. coli Chemotaxis Core Signaling Unit
Authors : Zhang, P.
Deposited on : 2019-06-07
Resolution : 8.40 Å(reported)

This is a wwPDB EM Validation Summary 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/EMMapValidationReportHelp>

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
Validation Pipeline (wwPDB-VP) : 2.49

1 Experimental information ⓘ

Property	Value	Source
EM reconstruction method	SUBTOMOGRAM AVERAGING	Depositor
Imposed symmetry	POINT, C2	Depositor
Number of subtomograms used	91636	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	Not provided	
Microscope	FEI POLARA 300	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	1.0	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	GATAN ULTRASCAN 4000 (4k x 4k)	Depositor
Maximum map value	14.403	Depositor
Minimum map value	-7.622	Depositor
Average map value	0.005	Depositor
Map value standard deviation	0.175	Depositor
Recommended contour level	2.15	Depositor
Map size (Å)	627.50397, 627.50397, 627.50397	wwPDB
Map dimensions	204, 204, 204	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	3.0759997, 3.0759997, 3.0759997	Depositor

2 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-10050. 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.

2.1 Orthogonal projections [i](#)

2.1.1 Primary map



X



Y



Z

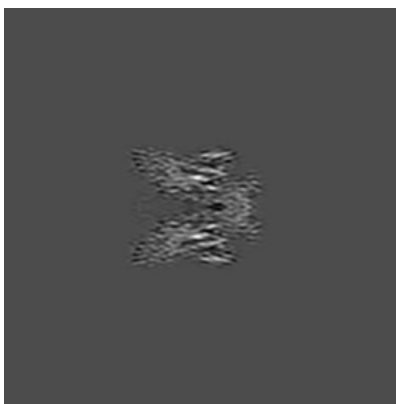
The images above show the map projected in three orthogonal directions.

2.2 Central slices [i](#)

2.2.1 Primary map



X Index: 102



Y Index: 102



Z Index: 102

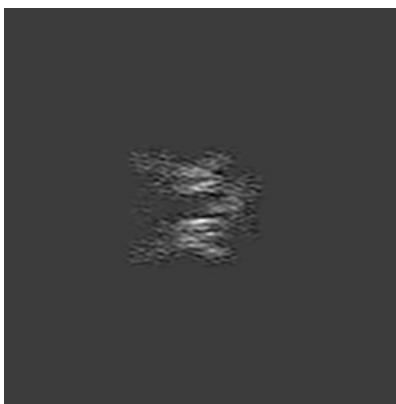
The images above show central slices of the map in three orthogonal directions.

2.3 Largest variance slices [i](#)

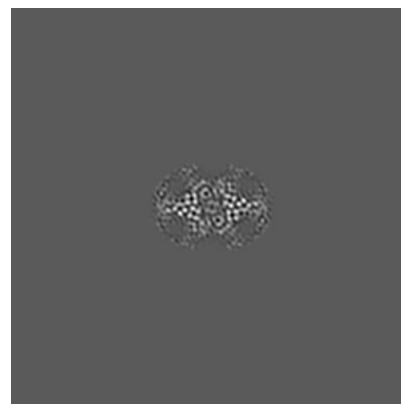
2.3.1 Primary map



X Index: 110



Y Index: 100

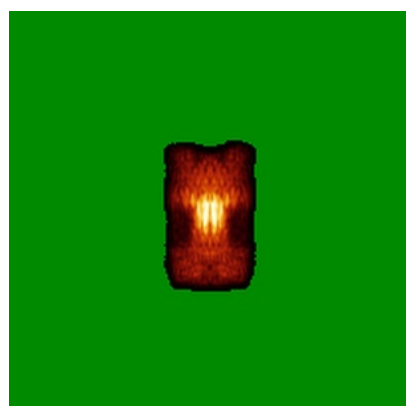


Z Index: 105

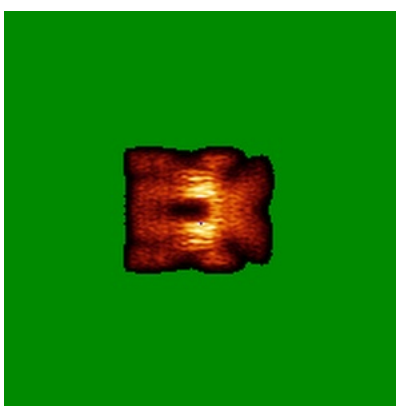
The images above show the largest variance slices of the map in three orthogonal directions.

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

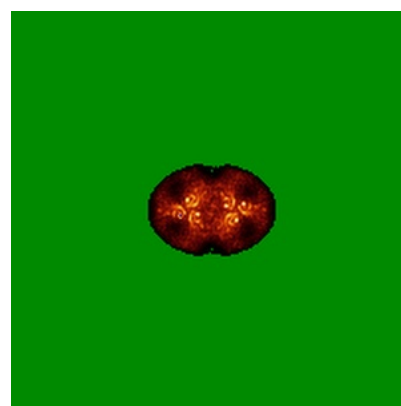
2.4.1 Primary map



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.

2.5 Orthogonal surface views

This section was not generated.

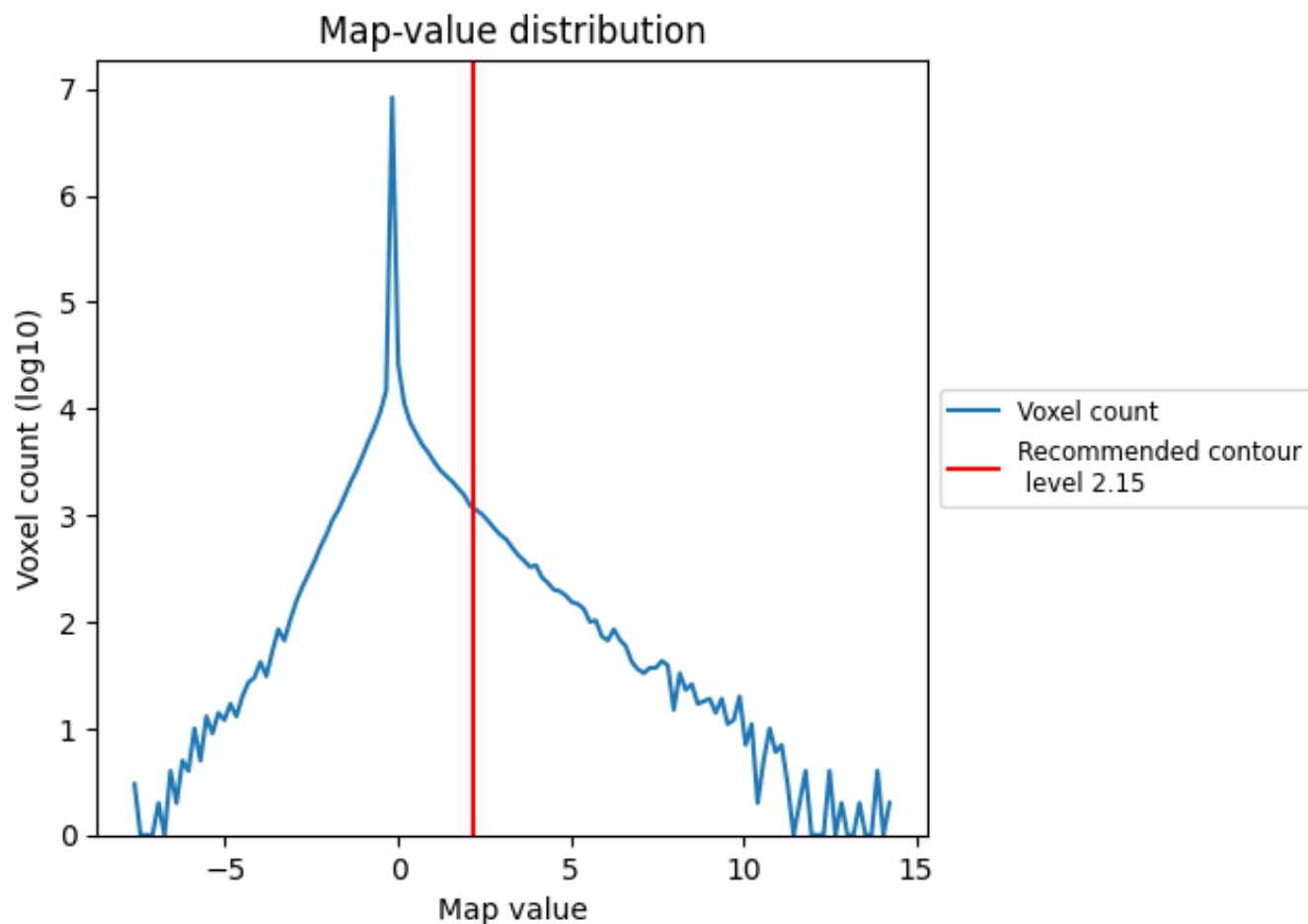
2.6 Mask visualisation

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

3 Map analysis [i](#)

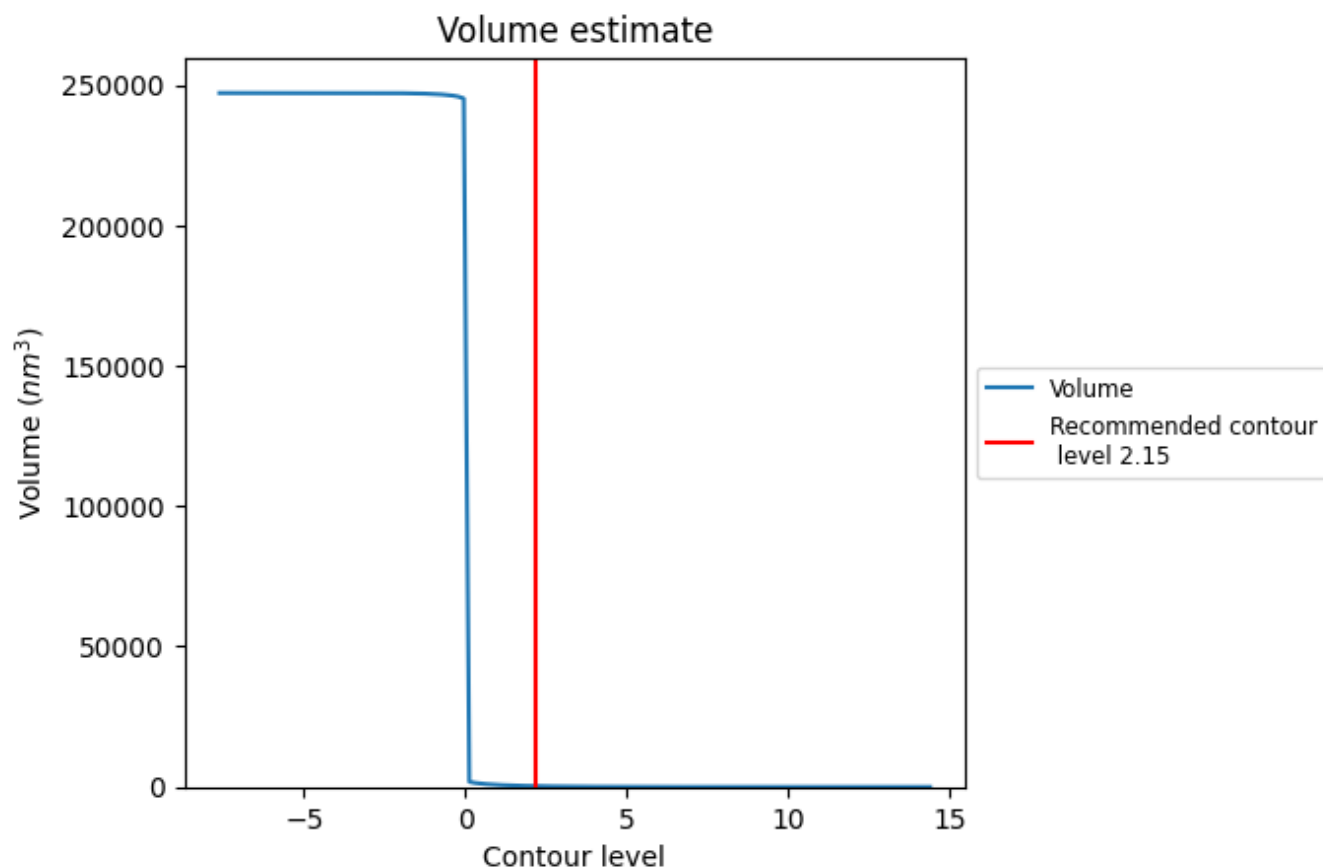
This section contains the results of statistical analysis of the map.

3.1 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.

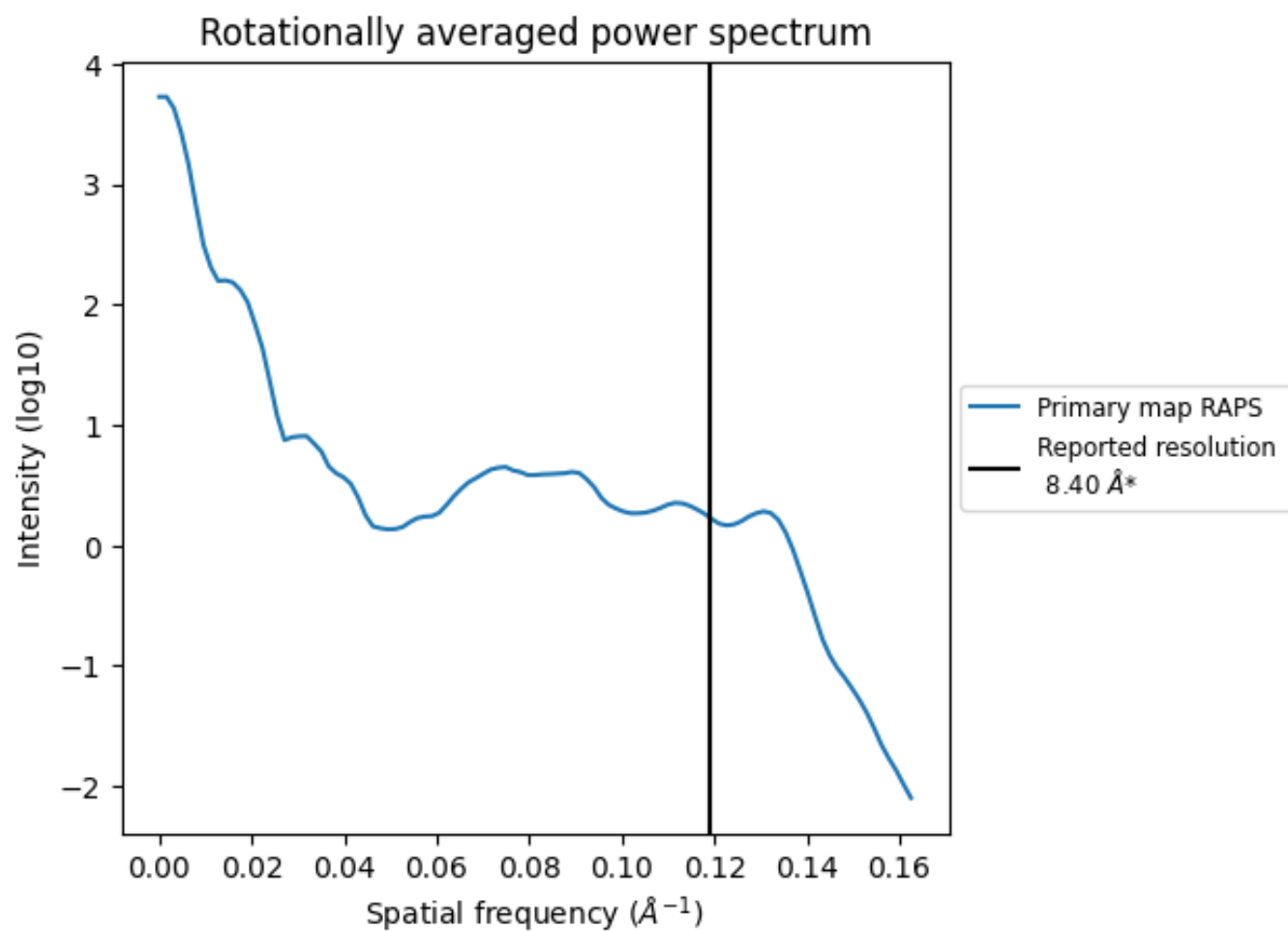
3.2 Volume estimate [i](#)



The volume at the recommended contour level is 305 nm^3 ; this corresponds to an approximate mass of 275 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.

3.3 Rotationally averaged power spectrum ⓘ



*Reported resolution corresponds to spatial frequency of 0.119 Å⁻¹

4 Fourier-Shell correlation ⓘ

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