Full wwPDB EM Validation Report (i)

May 31, 2022 – 12:02 PM EDT

EMDB ID	:	EMD-23060
Title	:	The stress-sensing domain of activated IRE1a forms helical filaments in narrow ER membrane tubes
Authors	:	Carter, S.D.; Tran, N.H.; De Maziere, A.; Ashkenazi, A.; Klumpermann, J.; Walter, P.; Jensen, G.J.
Deposited on	:	2020-12-02
Resolution	:	30.00 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/EMMapValidationReportHelp
with specific help available everywhere you see the (i) symbol.

The following versions of software and data (see references (1)) were used in the production of this report:

EMDB validation analysis	:	0.0.1.dev8
Validation Pipeline (wwPDB-VP)	:	2.28.1

1 Experimental information (i)

Property	Value	Source
EM reconstruction method	SUBTOMOGRAM AVERAGING	Depositor
Imposed symmetry	HELICAL, twist=45°, rise=32.6 Å, axial sym=C2	Depositor
Number of subtomograms used	653	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	CTF correction was performed in EMAN2	Depositor
Microscope	FEI POLARA 300	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	1.5	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	34000.0	Depositor
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	0.029	Depositor
Minimum map value	-0.018	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.002	Depositor
Recommended contour level	0.00542	Depositor
Map size (Å)	365.12, 365.12, 365.12	wwPDB
Map dimensions	56, 56, 56	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	6.52, 6.52, 6.52	Depositor

2 Map visualisation (i)

This section contains visualisations of the EMDB entry EMD-23060. 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: 28

Y Index: 28

Z Index: 28

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: 34

Y Index: 27

Z Index: 30

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

2.4 Orthogonal surface views (i)

2.4.1 Primary map

X

Y

Z

The images above show the 3D surface view of the map at the recommended contour level 0.00542. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

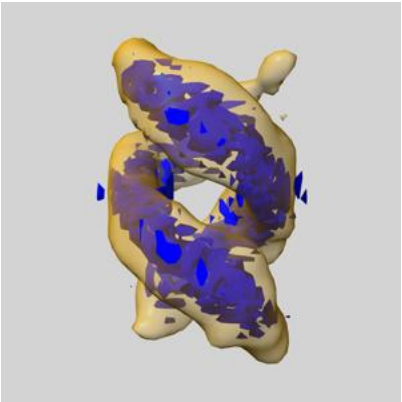
2.5 Mask visualisation (i)

This section shows the 3D surface view of the primary map at 50% transparency overlaid with the specified mask at 0% transparency

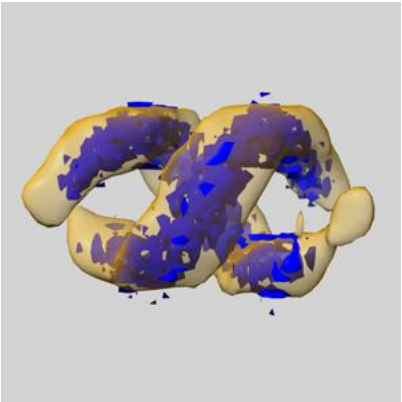
A mask typically either:

- Encompasses the whole structure
- Separates out a domain, a functional unit, a monomer or an area of interest from a larger structure

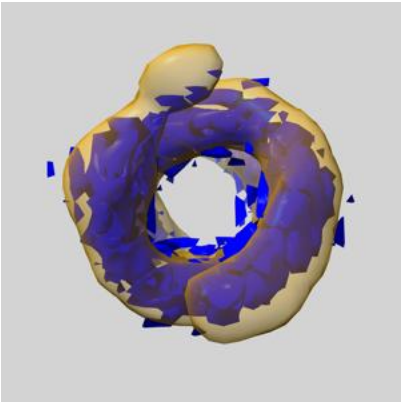
2.5.1 emd_23060_msk_1.map (i)



X



Y

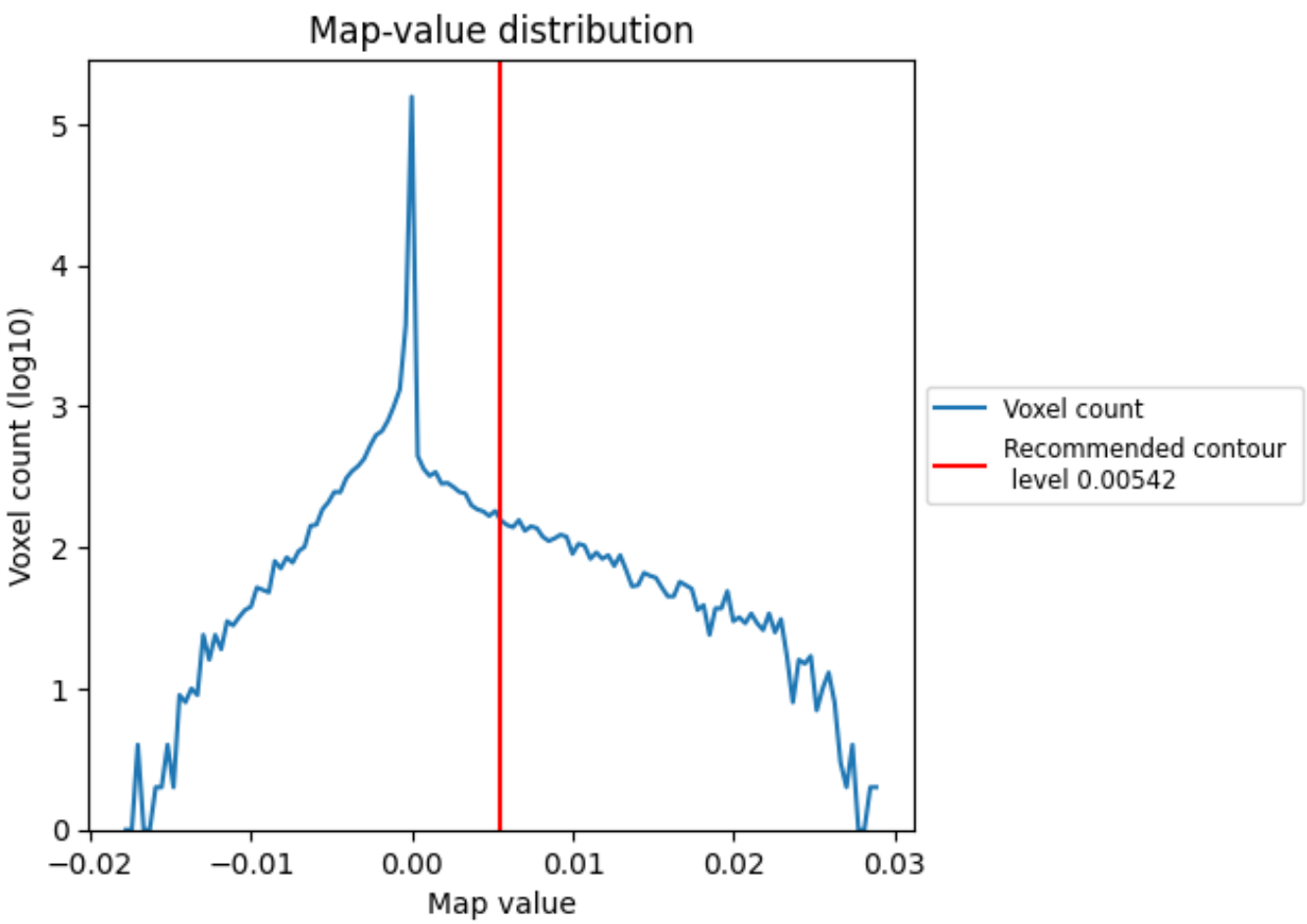


Z

3 Map analysis (i)

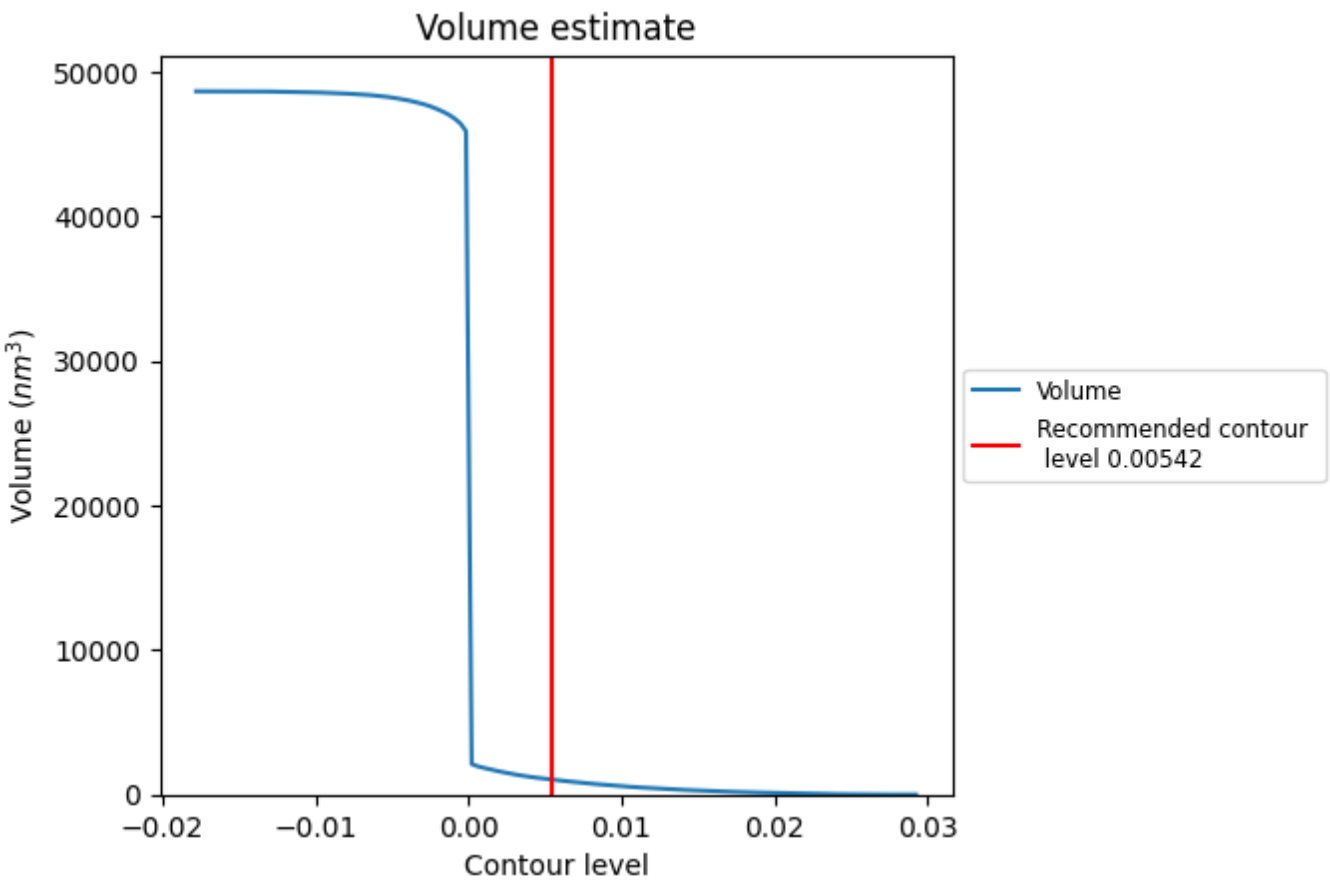
This section contains the results of statistical analysis of the map.

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.

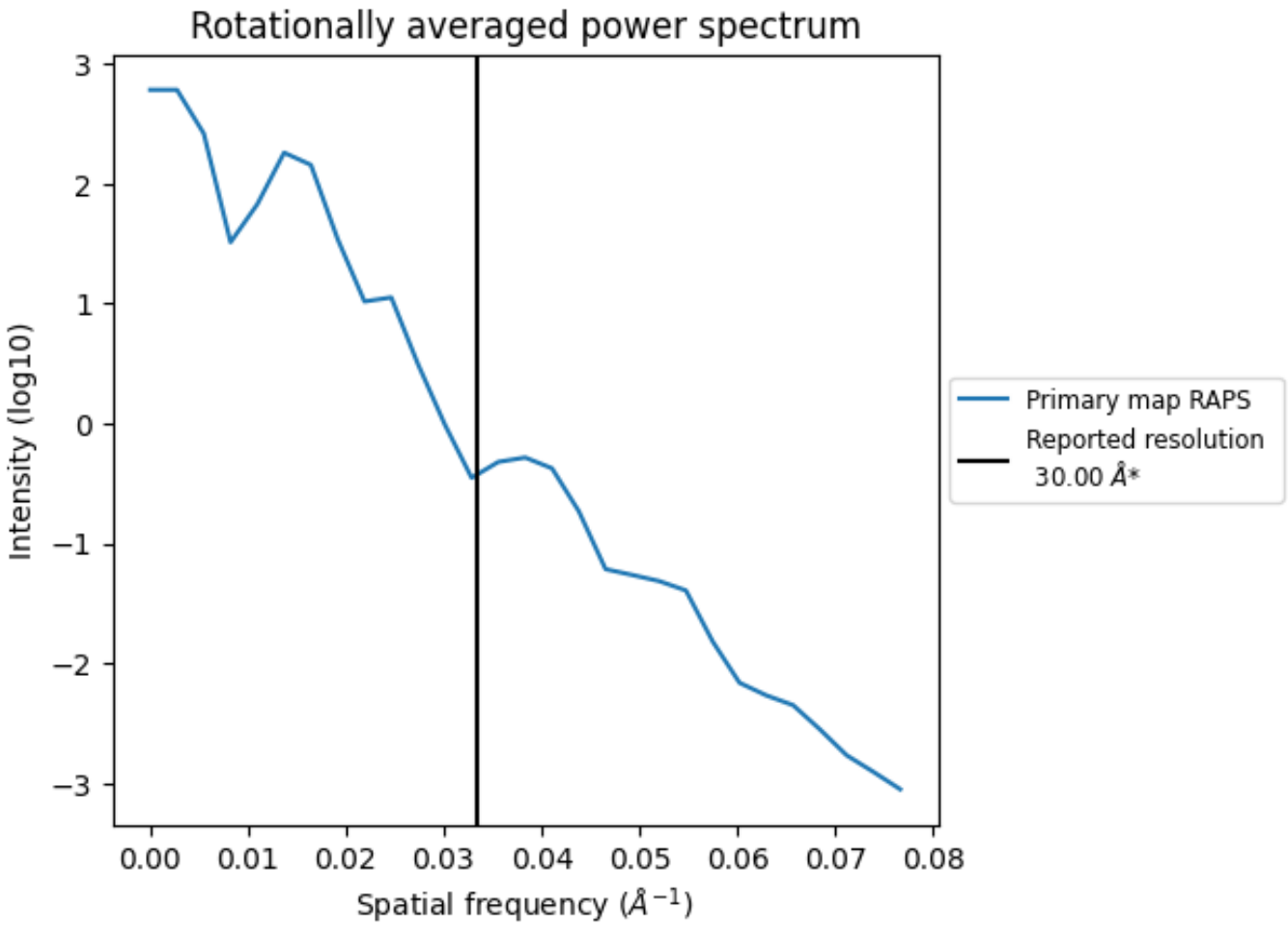
3.2 Volume estimate (i)



The volume at the recommended contour level is 1040 nm^3; this corresponds to an approximate mass of 940 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 (i)



*Reported resolution corresponds to spatial frequency of 0.033 Å^{-1}

4 Fourier-Shell correlation (i)

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