



## Full wwPDB EM Validation Report ⓘ

Nov 23, 2022 – 05:32 AM EST

EMDB ID : EMD-24667  
Title : Cryo-EM structure of Kip3 (AMPPNP) bound to GMPCPP-Stabilized Microtubules  
Authors : Hernandez-Lopez, R.A.; Leschziner, A.E.; Arellano-Santoyo, H.; Pellman, D.; Stokasimov, E.; Wang, R.Y.-R.  
Deposited on : 2021-08-11  
Resolution : 4.10 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](mailto: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>.

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The following versions of software and data (see [references ⓘ](#)) were used in the production of this report:

EMDB validation analysis : 0.0.1.dev43  
Validation Pipeline (wwPDB-VP) : 2.31.3

# 1 Experimental information

Property	Value	Source
EM reconstruction method	HELICAL	Depositor
Imposed symmetry	HELICAL, twist=-25.76°, rise=8.9 Å, axial sym=C14	Depositor
Number of segments used	21788	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	The contrast transfer function (CTF) was estimated using CTFFIND4 [(Rohou and Grigorieff, 2015) CTFFIND4: Fast and accurate] with a 500 um step search. A second CTFFIND run with a 100 um step search was carried out to refine the initial defocus values. Micrographs whose estimated resolution was lower than 8 Angstrom with 0.8 confidence were excluded.	Depositor
Microscope	FEI POLARA 300	Depositor
Voltage (kV)	300	Depositor
Electron dose ( $e^-/\text{\AA}^2$ )	40.0	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	14.475	Depositor
Minimum map value	-10.953	Depositor
Average map value	0.008	Depositor
Map value standard deviation	0.366	Depositor
Recommended contour level	0.4	Depositor
Map size (Å)	294.0, 294.0, 294.0	wwPDB
Map dimensions	300, 300, 300	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.98, 0.98, 0.98	Depositor

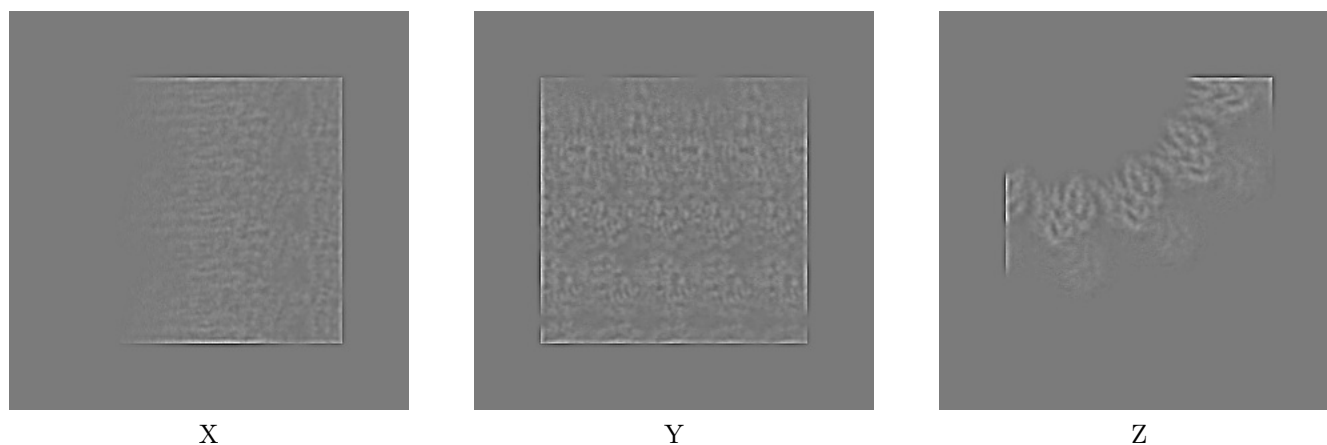
## 2 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-24667. 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](#)

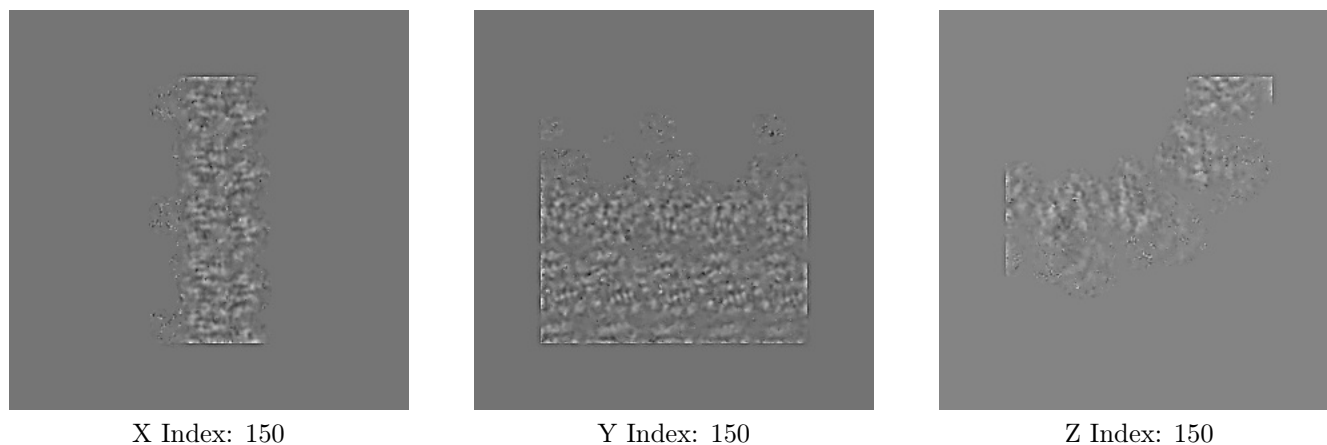
#### 2.1.1 Primary map



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

### 2.2 Central slices [i](#)

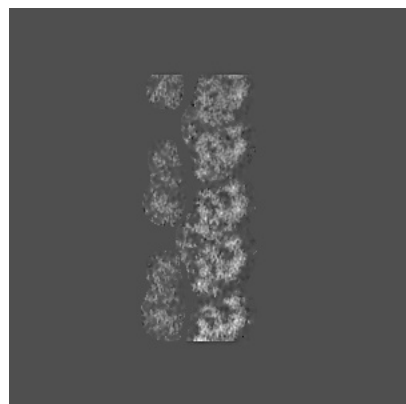
#### 2.2.1 Primary map



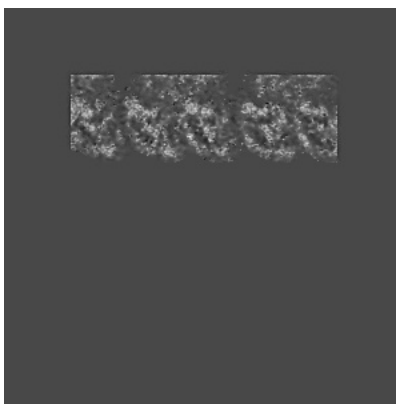
The images above show central slices of the map in three orthogonal directions.

## 2.3 Largest variance slices [i](#)

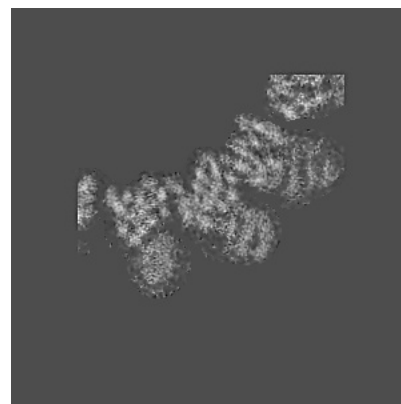
### 2.3.1 Primary map



X Index: 50



Y Index: 249

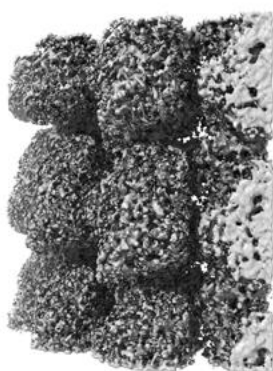


Z Index: 50

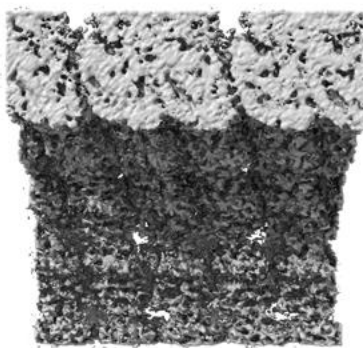
The images above show the largest variance slices of the map in three orthogonal directions.

## 2.4 Orthogonal surface views [i](#)

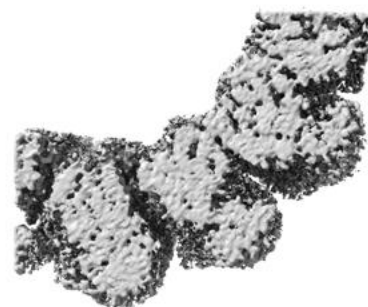
### 2.4.1 Primary map



X



Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.4. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

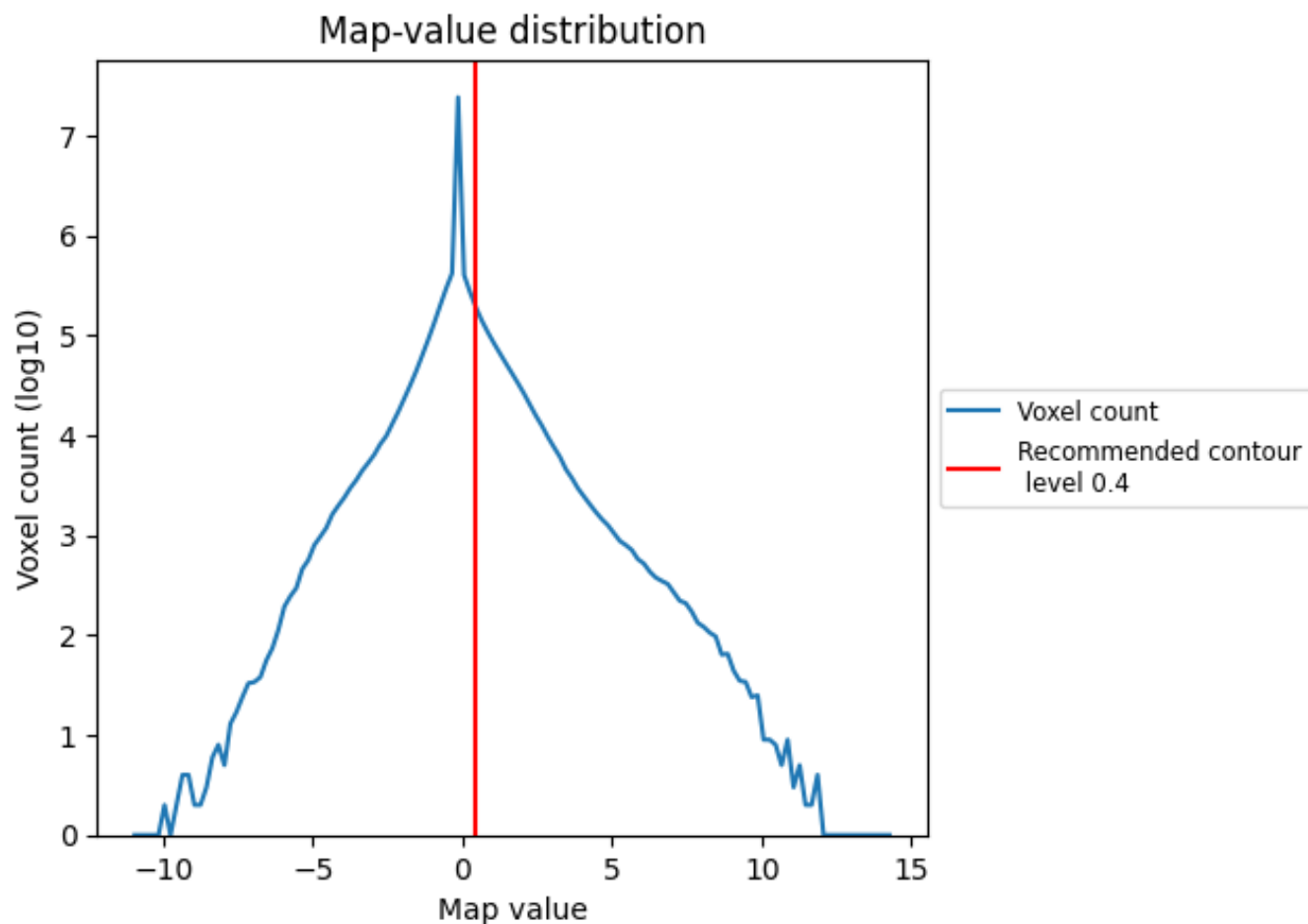
## 2.5 Mask visualisation

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

### 3 Map analysis [i](#)

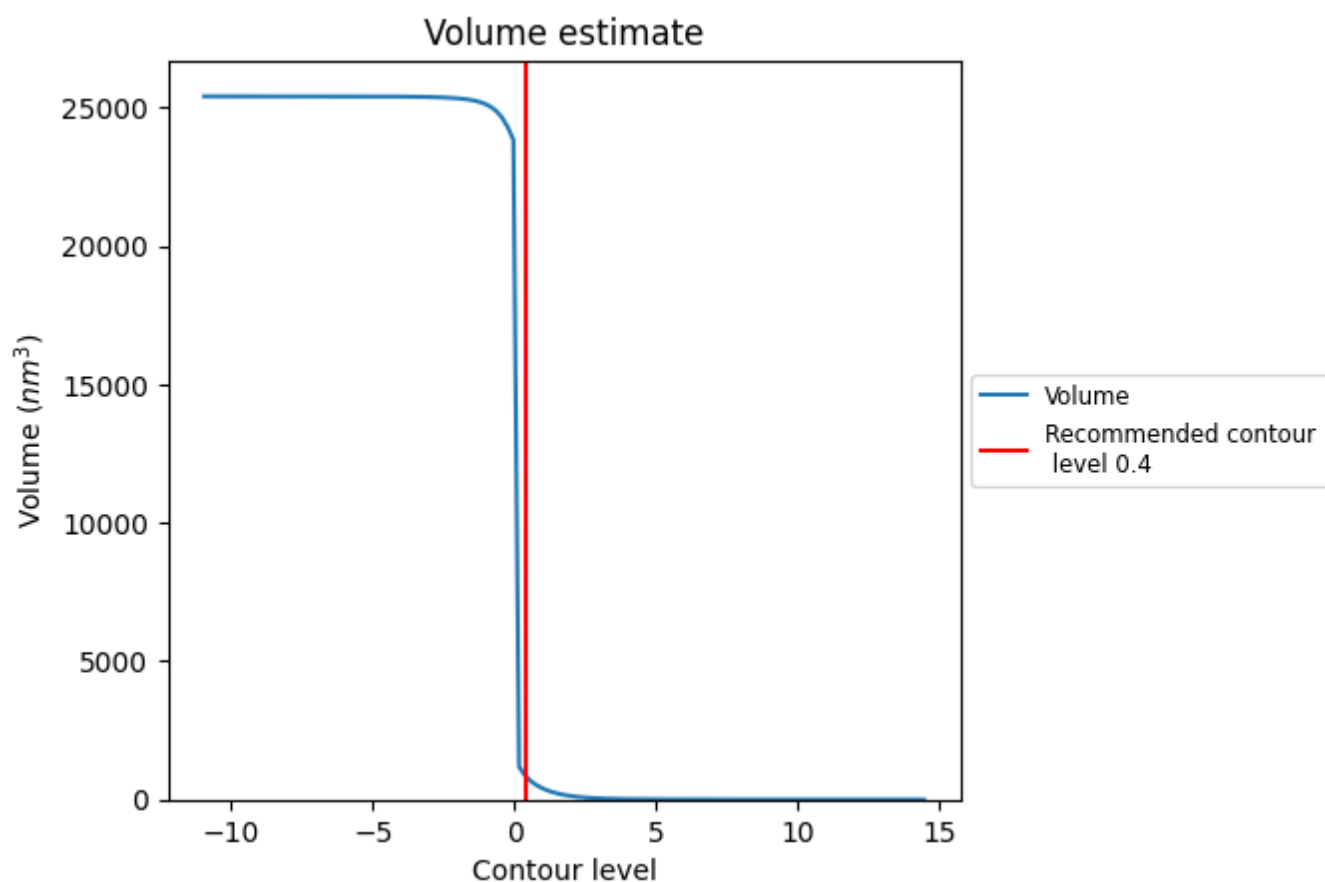
This section contains the results of statistical analysis of the map.

#### 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.

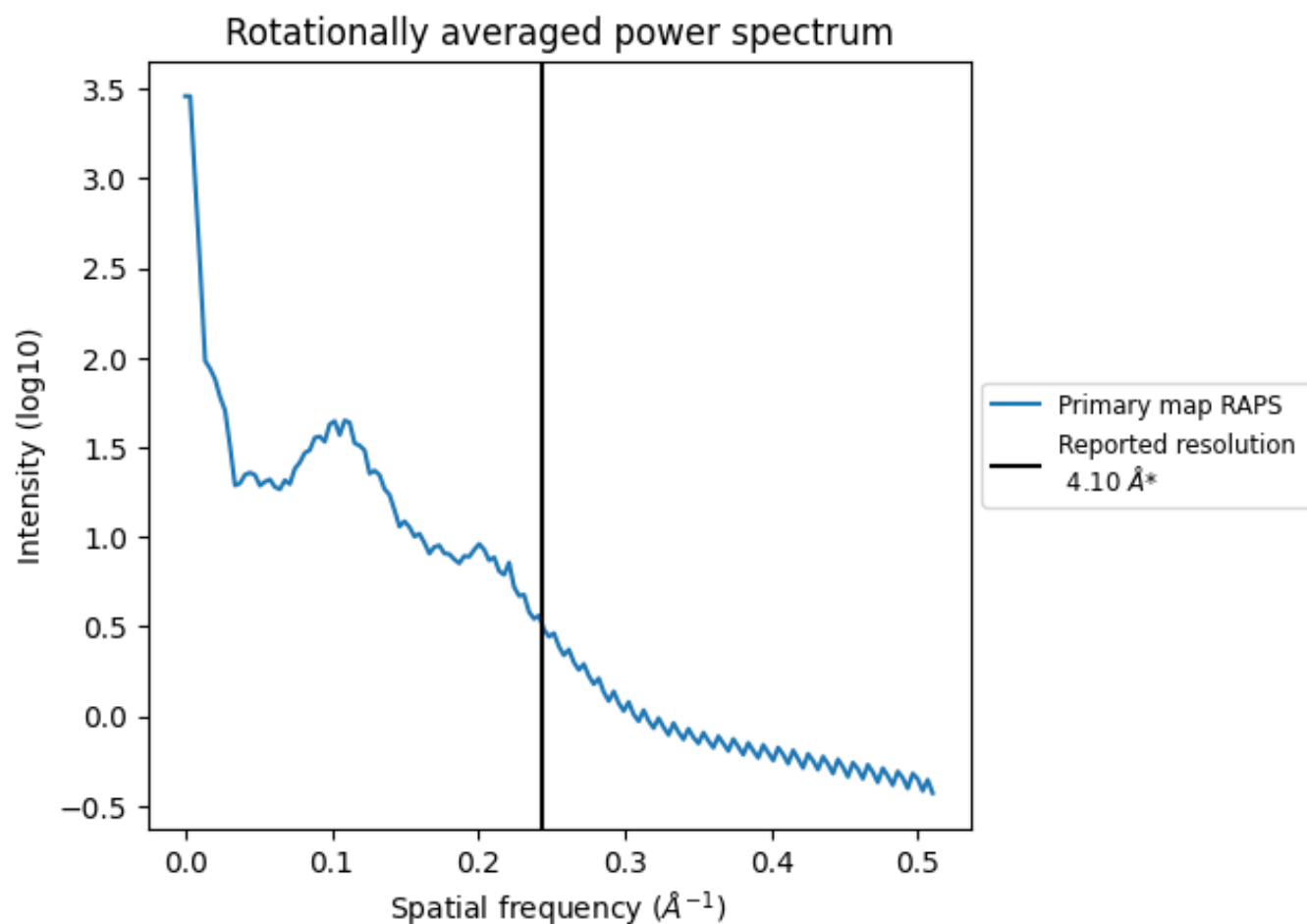
### 3.2 Volume estimate [i](#)



The volume at the recommended contour level is 857 nm<sup>3</sup>; this corresponds to an approximate mass of 774 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 0.244 Å<sup>-1</sup>



## 4 Fourier-Shell correlation ⓘ

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