



Full wwPDB EM Validation Report ⓘ

Mar 8, 2026 – 03:58 PM UTC

PDB ID : 7TYZ / pdb_00007tyz
EMDB ID : EMD-26200
Title : Cryo-EM structure of SARS-CoV-2 spike in complex with FSR22, an anti-SARS-CoV-2 DARPin
Authors : Kwon, Y.D.; Gorman, J.; Kwong, P.D.
Deposited on : 2022-02-15
Resolution : 3.51 Å(reported)
Based on initial model : 7BNO

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
Mogul : **FAILED**
MolProbity : **FAILED**
Buster-report : **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 : 1.8.1
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.49

PERCENTILES INFOmissingINFO

ENTRY-COMPOSITION INFOmissingINFO

SEQUENCE-PLOTS INFOmissingINFO

1 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C3	Depositor
Number of particles used	18892	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	40.2	Depositor
Minimum defocus (nm)	1250	Depositor
Maximum defocus (nm)	2500	Depositor
Magnification	Not provided	
Image detector	GATAN K3 BIOQUANTUM (6k x 4k)	Depositor
Maximum map value	0.665	Depositor
Minimum map value	-0.272	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.017	Depositor
Recommended contour level	0.07	Depositor
Map size (Å)	446.976, 446.976, 446.976	wwPDB
Map dimensions	512, 512, 512	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.873, 0.873, 0.873	Depositor

2 Model quality [i](#)

2.1 Standard geometry [i](#)

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

2.2 Too-close contacts [i](#)

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

2.3 Torsion angles [i](#)

2.3.1 Protein backbone [i](#)

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

2.3.2 Protein sidechains [i](#)

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

2.3.3 RNA [i](#)

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

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

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

SUGAR-GEOMETRY INFOmissingINFO

2.5 Ligand geometry [i](#)

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

2.6 Other polymers [i](#)

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

POLYMER-BREAKS INFOmissingINFO

3 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-26200. 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.

3.1 Orthogonal projections [i](#)

This section was not generated.

3.2 Central slices [i](#)

This section was not generated.

3.3 Largest variance slices [i](#)

This section was not generated.

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

This section was not generated.

3.5 Orthogonal surface views [i](#)

This section was not generated.

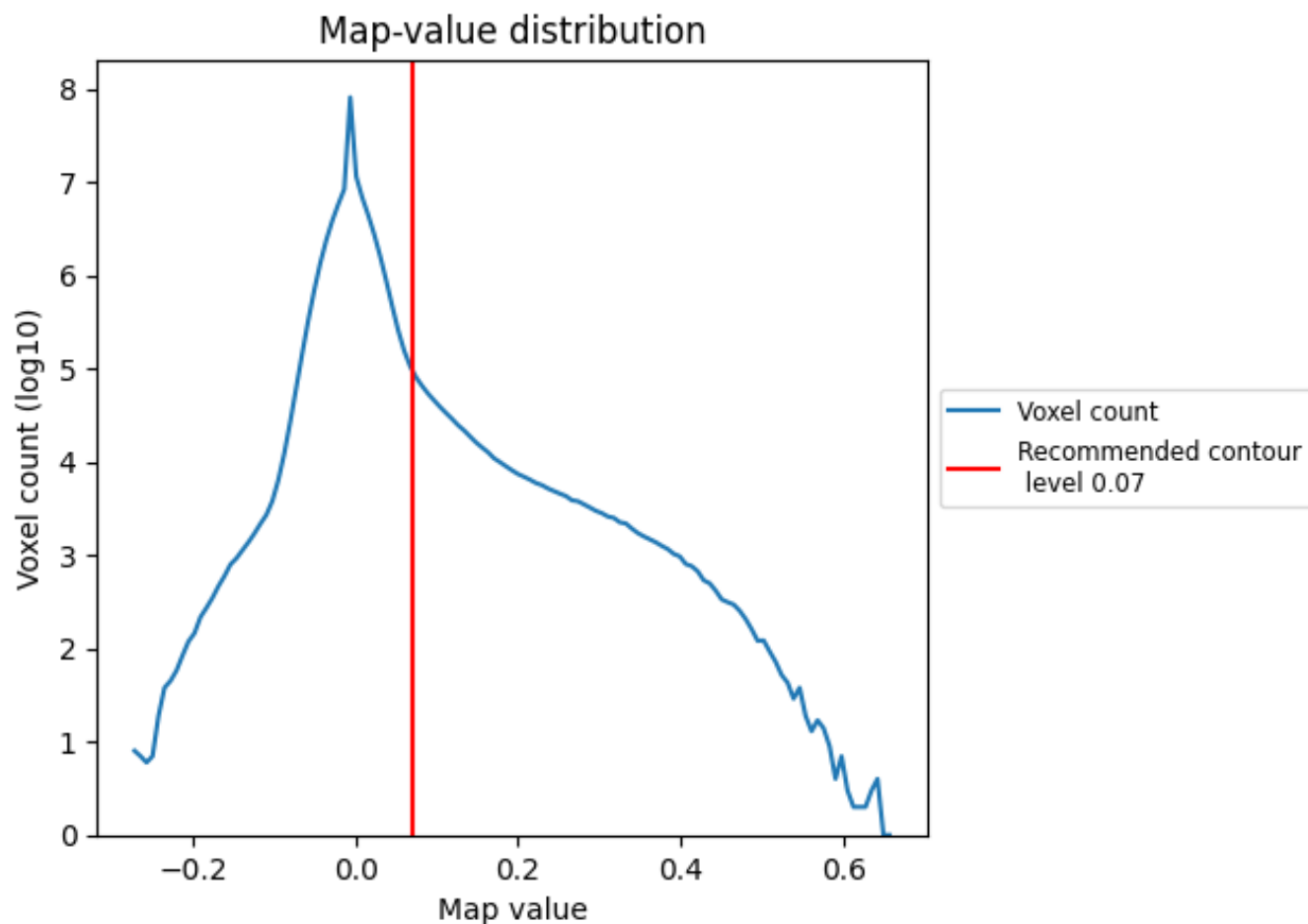
3.6 Mask visualisation [i](#)

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

4 Map analysis ⓘ

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

4.1 Map-value distribution ⓘ



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.

4.2 Volume estimate versus contour level ⓘ

This section was not generated.

4.3 Rotationally averaged power spectrum ⓘ

This section was not generated. The rotationally averaged power spectrum could not be displayed.

5 Fourier-Shell correlation ⓘ

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

6 Map-model fit

This section contains information regarding the fit between EMDB map EMD-26200 and PDB model 7TYZ. Per-residue inclusion information can be found in section ?? on page ??.

6.1 Map-model overlay

This section was not generated.

6.2 Q-score mapped to coordinate model

This section was not generated.

6.3 Atom inclusion mapped to coordinate model

This section was not generated.

6.4 Atom inclusion versus contour level

This section was not generated.

6.5 Map-model fit summary

This section was not generated.