

**Summary of integrative structure determination of Modeling hLINE1 ORF2p (PDB ID: 9A3Q |  
pdb\_00009a3q, PDB-Dev ID: PDBDEV\_0000211 )**

<b>1. Model Composition</b>	
<a href="#">1.1. Entry composition</a>	ORF2: chain(s) A (1275 residues)
<a href="#">1.2. Datasets used for modeling</a>	<ul style="list-style-type: none"> <li>- De Novo model, AlphaFoldDB: <a href="#">AF-O00370-F1</a></li> <li>- De Novo model, MODEL ARCHIVE: <a href="#">ma-fejd6</a></li> <li>- De Novo model, MODEL ARCHIVE: <a href="#">ma-joo4d</a></li> <li>- De Novo model, MODEL ARCHIVE: <a href="#">ma-lzyrq</a></li> <li>- De Novo model, MODEL ARCHIVE: <a href="#">ma-xlzzy</a></li> <li>- Mass Spectrometry data, PRIDE: <a href="#">PXD038615</a></li> <li>- Crosslinking-MS data, Zenodo: <a href="#">10.5281/zenodo.10377421</a></li> <li>- Crosslinking-MS data, Zenodo: <a href="#">10.5281/zenodo.10377421</a></li> <li>- Crosslinking-MS data, Zenodo: <a href="#">10.5281/zenodo.10377421</a></li> <li>- EM raw micrographs, EMPIAR: <a href="#">EMPIAR-11556</a></li> <li>- 3DEM volume, EMDB: <a href="#">40856</a></li> <li>- 3DEM volume, Zenodo: <a href="#">10.5281/zenodo.10377421</a></li> <li>- De Novo model, MODEL ARCHIVE: <a href="#">ma-9wovj</a></li> <li>- 2DEM class average, Zenodo: <a href="#">10.5281/zenodo.10377421</a></li> <li>- 2DEM class average, Zenodo: <a href="#">10.5281/zenodo.10377421</a></li> <li>- 2DEM class average, Zenodo: <a href="#">10.5281/zenodo.10377421</a></li> </ul>
<b>2. Representation</b>	
<a href="#">2.1. Number of representations</a>	1
<a href="#">2.2. Scale</a>	Coarse-grained: 1 residue(s) per bead
<a href="#">2.3. Number of rigid and flexible segments</a>	15, 14
<b>3. Restraints</b>	
<a href="#">3.1. Physical principles</a>	Information about physical principles was not provided
<a href="#">3.2. Experimental data</a>	<ul style="list-style-type: none"> <li>- 1 unique EM2DRestraint: Number of micrographs: None, Image resolution: 20.0</li> <li>- 1 unique EM3DRestraint: Gaussian mixture models</li> <li>- 1 unique CrossLinkRestraint: BS3, 15 crosslinks</li> <li>- 1 unique CrossLinkRestraint: BS3, 11 crosslinks</li> <li>- 1 unique CrossLinkRestraint: BS3, 30 crosslinks</li> <li>- 15 unique PredictedContactRestraint: Distance: 27.0</li> </ul>
<b>4. Validation</b>	
<a href="#">4.2. Number of ensembles</a>	1
<a href="#">4.3. Number of models in ensembles</a>	1383

<a href="#">4.4. Number of deposited models</a>	159
<a href="#">4.5. Model precision</a>	12.87, Å
<a href="#">4.6. Data quality</a>	40856: resolution is 4.06 Å
<a href="#">4.7. Model quality: assessment of excluded volume</a>	Satisfaction: 99.60-99.61%
<a href="#">4.8. Fit to data used for modeling</a>	Satisfaction of crosslinks: 85.71-92.86%
<a href="#">4.9. Fit to data used for validation</a>	Fit of model to information not used to compute it has not been determined
<b>5. Methodology and Software</b>	
1. <a href="#">5.1. Method name</a>	Sampling
<a href="#">5.2. Method type</a>	AlphaFold2
<a href="#">5.3. Method description</a>	Modeling of full-length ORF2p with AlphaFold2 using varying alignment depth. Details of the simulations are available in the ModelArchive entry ma-fejd6
2. <a href="#">5.1. Method name</a>	Sampling
<a href="#">5.2. Method type</a>	Molecular Dynamics simulations
<a href="#">5.3. Method description</a>	Details of molecular dynamics simulations are available ModelArchive entries
3. <a href="#">5.1. Method name</a>	Sampling
<a href="#">5.2. Method type</a>	Replica Exchange Gibbs sampling, based on Metropolis Monte Carlo
<a href="#">5.3. Method description</a>	20 replicas; 3 runs; 10000 models per run
<a href="#">5.4. Number of computed models</a>	30000
4. <a href="#">5.1. Method name</a>	Refinement
<a href="#">5.2. Method type</a>	Steepest descent
<a href="#">5.3. Method description</a>	Conversion of a Ca-model to a full backbone model
<a href="#">5.4. Number of computed models</a>	159
5. <a href="#">5.1. Method name</a>	Refinement
<a href="#">5.2. Method type</a>	SCWRL
<a href="#">5.3. Method description</a>	Conversion of a backbone model to a full-atom model
<a href="#">5.4. Number of computed models</a>	159

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6. <a href="#">5.1. Method name</a>	Refinement
<a href="#">5.2. Method type</a>	Geometry optimization
<a href="#">5.3. Method description</a>	Conversion of a backbone model to a full-atom model
<a href="#">5.4. Number of computed models</a>	159
<a href="#">5.5. Software</a>	<ul style="list-style-type: none"><li>- <a href="#">Sampcon</a> (version 2.18.0)</li><li>- <a href="#">ColabFold</a> (version 1.3.0)</li><li>- <a href="#">GROMACS</a> (version 2022.3)</li><li>- <a href="#">IMP PMI module</a> (version 2.19.0)</li><li>- <a href="#">PULCHRA</a> (version 3.04)</li><li>- <a href="#">SCWRL4.0</a> (version 4.0)</li><li>- <a href="#">Integrative Modeling Platform (IMP)</a> (version 2.19.0)</li></ul>