**Summary of integrative structure determination of PTEN model. Model restrained with crosslinking-MS data from "eased" conformation and CTT. RoseTTAFold-generated initial structure (PDB ID: 9A96 | pdb_00009a96)**

| 1. Model Composition | |
|---|---|
| *1.1. Entry composition* | Phosphatidylinositol 3,4,5-trisphosphate 3-phosphatase and dual-specificity protein phosphatase PTEN: chain(s) A (403 residues) |
| *1.2. Datasets used for modeling* | - De Novo model, Not available<br>- Crosslinking-MS data, PRIDE: PXD059974 |
| **2. Representation** | |
| *2.1. Number of representations* | 1 |
| *2.2. Scale* | Atomic |
| *2.3. Number of rigid and flexible segments* | 0, 1 |
| **3. Restraints** | |
| *3.1. Physical principles* | Information about physical principles was not provided |
| *3.2. Experimental data* | - 1 unique CrossLinkRestraint: DSSO, 46 crosslinks<br>- 1 unique CrossLinkRestraint: DHSO, 15 crosslinks |
| **4. Validation** | |
| *4.2. Number of ensembles* | 1 |
| *4.3. Number of models in ensembles* | 17 |
| *4.4. Number of deposited models* | 17 |
| *4.5. Model precision* | Not available |
| *4.6. Data quality* | Data quality has not been assessed |
| *4.7. Model quality: assessment of atomic segments* | - Clashscore: 1.07-1.99<br>- Ramachandran outliers: 2-3<br>- Sidechain outliers: 0-1 |
| *4.8. Fit to data used for modeling* | Satisfaction of crosslinks: 77.55-79.59% |
| *4.9. Fit to data used for validation* | Fit of model to information not used to compute it has not been determined |
| **5. Methodology and Software** | |
| *1. 5.1. Method name* | Protein structure prediction |
| *5.2. Method type* | RoseTTAFold |

| | |
|---|---|
| *5.4. Number of computed models* | 1 |
| *2. 5.1. Method name* | Rosetta pre-relaxation |
| *5.2. Method type* | Rosetta relax protocol. Unrestrained. Lowest energy model of 200 used in next step |
| *5.4. Number of computed models* | 200 |
| *3. 5.1. Method name* | Restrained modeling |
| *5.2. Method type* | Rosetta, crosslinking-MS distance restraints |
| *5.3. Method description* | The individual models were restrained with subsets of experimental crosslink data in order to parse out specific restraints that correspond to a particular model. The crosslink list table provides the full set of experimental data obtained and the crosslink restraint table identifies the subset of crosslink restraints used in the modeling. |
| *5.4. Number of computed models* | 2000 |
| *5.5. Software* | - RoseTTAFold (version Not available)<br>- Rosetta (version 2020.08)<br>- Rosetta (version 3.12) |