

Integrative Structure Validation Report

August 15, 2024 - 01:46 PM PDT

The following software was used in the production of this report:


Python-IHM Version 1.3

Integrative Modeling Validation Version 1.2

| | |
|-------------------|--|
| PDB ID | 9A8K |
| PDB-Dev ID | PDBDEV_00000384 |
| Structure Title | Modeling of Mouse NPC basket |
| Structure Authors | Singh, D.; Soni, N.; Hutchings, J.; Echeverria, I.; Shaikh, F.; Duquette, M.; Suslov, S.; Li, Z.; van Eeuwen, T.; Molloy, K.; Shi, Y.; Wang, J.; Guo, Q.; Chait, B.T.; Fernandez-Martinez, J.; Rout, M.P.; Sali, A.; Villa, E. |

This is a PDB-Dev IM Structure Validation Report for a publicly released PDB-Dev entry.

We welcome your comments at pdb-dev@mail.wwpdb.org

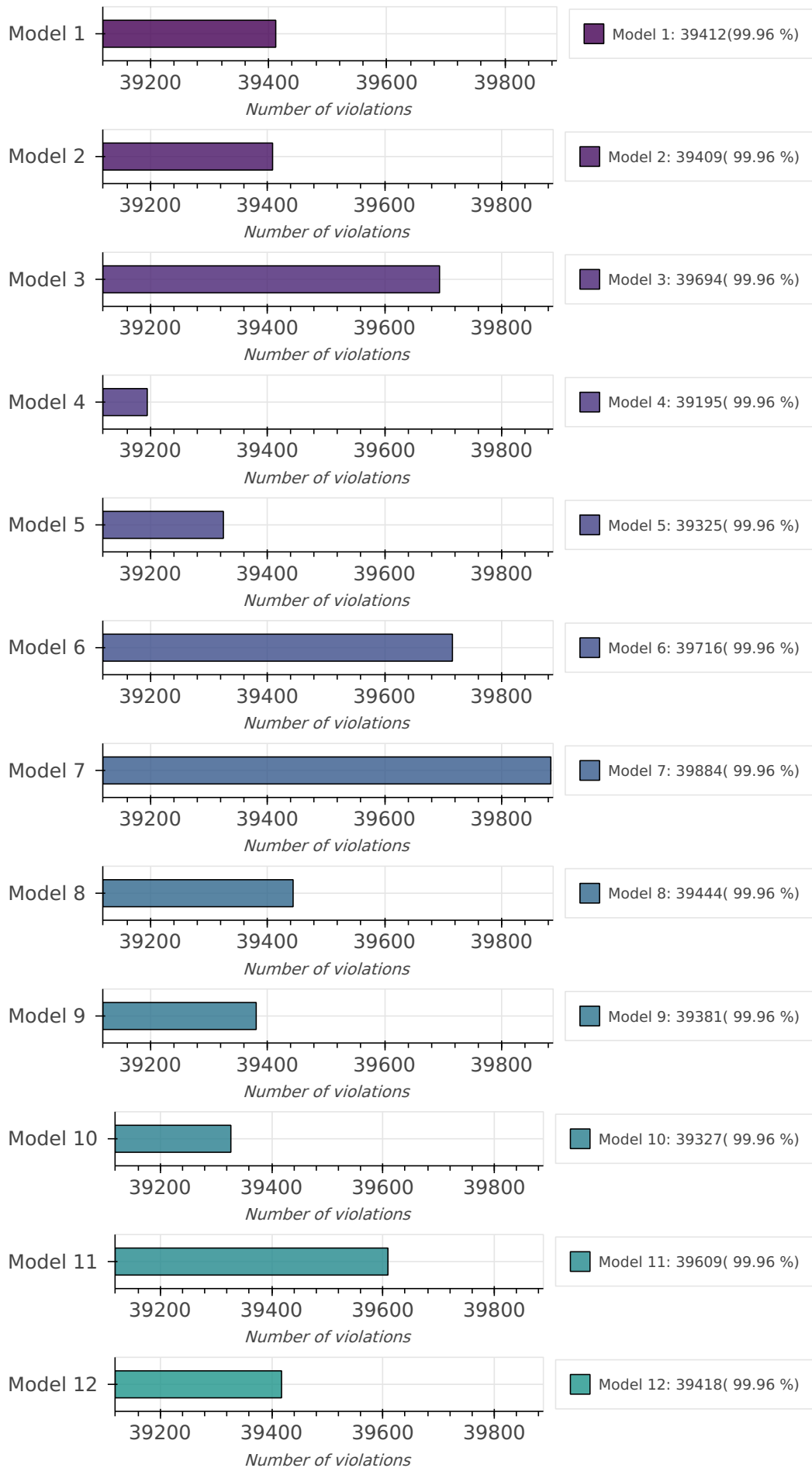
A user guide is available at https://pdb-dev.wwpdb.org/validation_help.html with specific help available everywhere you see the  symbol.

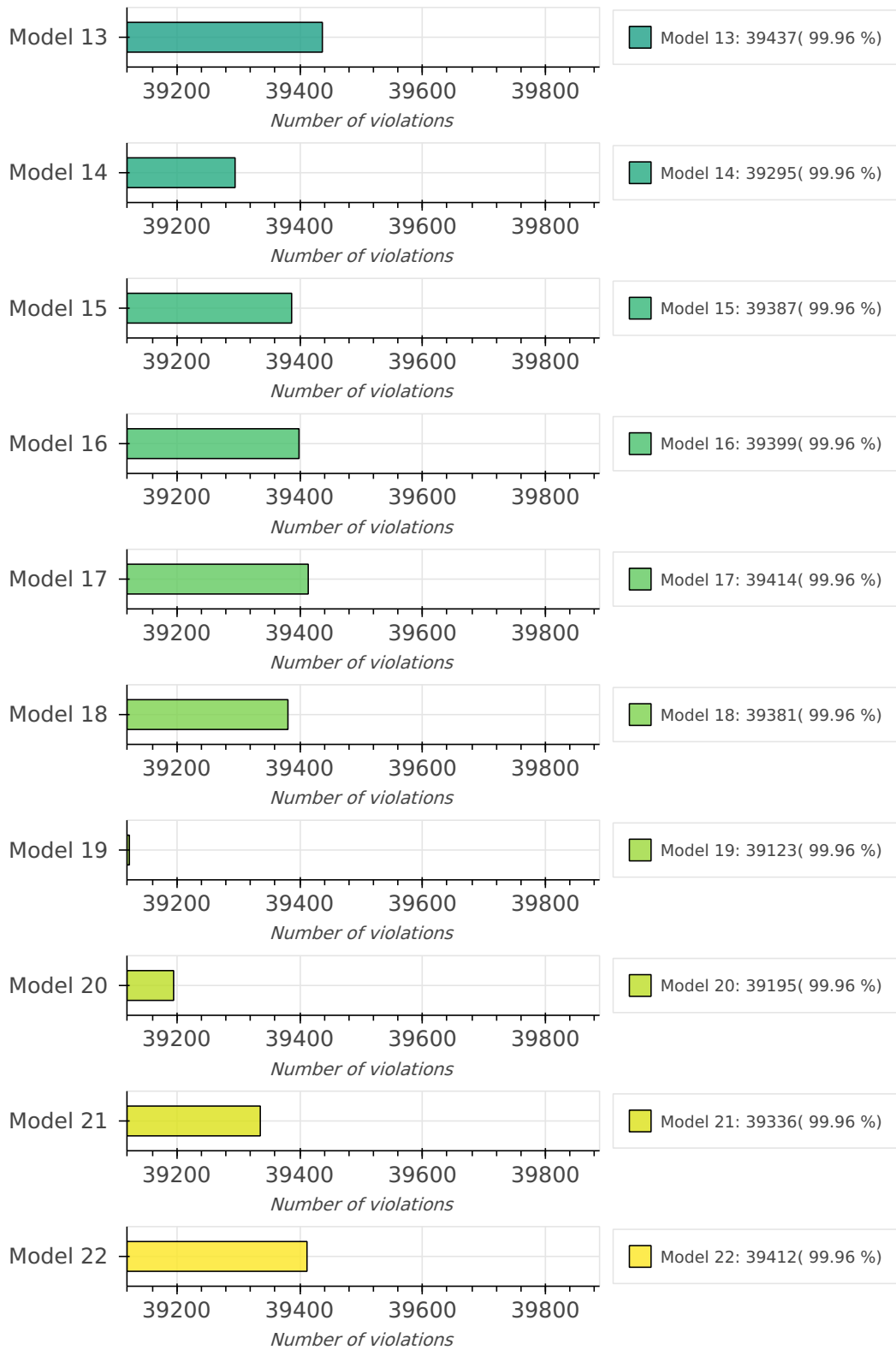
List of references used to build this report is available [here](#).

Overall quality

This validation report contains model quality assessments for all structures, data quality assessment for SAS datasets and fit to model assessments for SAS datasets. Data quality and fit to model assessments for other datasets and model uncertainty are under development. Number of plots is limited to 256.

Model Quality: Excluded Volume Analysis





Ensemble information ?

This entry consists of 1 distinct ensemble(s).

Summary

This entry consists of 22 unique models, with 24 subunits in each model. A total of 6 datasets or restraints were used to build this entry. Each model is represented by 74 rigid bodies and 54 flexible or non-rigid units.

Entry composition

There are 22 unique types of models in this entry. These models are titled centroid, model_0000, model_0001, model_0002, model_0003, model_0004, model_0005, model_0006, model_0007, model_0008, model_0009, model_0010, model_0011, model_0012, model_0013, model_0014, model_0015, model_0016, model_0017, model_0018, model_0019, C1-Bead respectively.

| Model ID | Subunit number | Subunit ID | Subunit name | Chain ID | Chain ID [auth] | Total residues |
|----------|----------------|------------|--|----------|-----------------|----------------|
| 1 | 1 | 1 | Nucleoprotein TPR | A | A | 2431 |
| 1 | 2 | 1 | Nucleoprotein TPR | B | B | 2431 |
| 1 | 3 | 2 | Nuclear pore complex protein Nup50 | C | C | 466 |
| 1 | 4 | 2 | Nuclear pore complex protein Nup50 | D | D | 466 |
| 1 | 5 | 3 | Nucleoporin 153 | E | E | 1462 |
| 1 | 6 | 3 | Nucleoporin 153 | F | F | 1462 |
| 1 | 7 | 4 | Nuclear pore complex protein Nup160 | G | G | 1402 |
| 1 | 8 | 4 | Nuclear pore complex protein Nup160 | H | H | 1402 |
| 1 | 9 | 5 | Nuclear pore complex protein Nup85 | I | I | 656 |
| 1 | 10 | 5 | Nuclear pore complex protein Nup85 | J | J | 656 |
| 1 | 11 | 6 | Nuclear pore complex protein Nup98-Nup96 | K | K | 1816 |

| Model ID | Subunit number | Subunit ID | Subunit name | Chain ID | Chain ID [auth] | Total residues |
|-----------------|-----------------------|-------------------|--|-----------------|------------------------|-----------------------|
| 1 | 12 | 6 | Nuclear pore complex protein Nup98-Nup96 | L | L | 1816 |
| 1 | 13 | 7 | Protein SEC13 homolog | M | M | 322 |
| 1 | 14 | 7 | Protein SEC13 homolog | N | N | 322 |
| 1 | 15 | 8 | Nucleoporin SEH1 | O | O | 360 |
| 1 | 16 | 8 | Nucleoporin SEH1 | P | P | 360 |
| 1 | 17 | 9 | Nuclear pore complex protein Nup107 | Q | Q | 926 |
| 1 | 18 | 9 | Nuclear pore complex protein Nup107 | R | R | 926 |
| 1 | 19 | 10 | Nuclear pore complex protein Nup133 | S | S | 1155 |
| 1 | 20 | 10 | Nuclear pore complex protein Nup133 | T | T | 1155 |
| 1 | 21 | 11 | Nucleoporin Nup37 | U | U | 326 |
| 1 | 22 | 11 | Nucleoporin Nup37 | V | V | 326 |
| 1 | 23 | 12 | Nucleoporin Nup43 | W | W | 380 |
| 1 | 24 | 12 | Nucleoporin Nup43 | X | X | 380 |
| 2 | 1 | 1 | Nucleoprotein TPR | A | A | 2431 |
| 2 | 2 | 1 | Nucleoprotein TPR | B | B | 2431 |
| 2 | 3 | 2 | Nuclear pore complex protein Nup50 | C | C | 466 |
| 2 | 4 | 2 | Nuclear pore complex protein Nup50 | D | D | 466 |
| 2 | 5 | 3 | Nucleoporin 153 | E | E | 1462 |
| 2 | 6 | 3 | Nucleoporin 153 | F | F | 1462 |

| Model ID | Subunit number | Subunit ID | Subunit name | Chain ID | Chain ID [auth] | Total residues |
|-----------------|-----------------------|-------------------|--|-----------------|------------------------|-----------------------|
| 2 | 7 | 4 | Nuclear pore complex protein Nup160 | G | G | 1402 |
| 2 | 8 | 4 | Nuclear pore complex protein Nup160 | H | H | 1402 |
| 2 | 9 | 5 | Nuclear pore complex protein Nup85 | I | I | 656 |
| 2 | 10 | 5 | Nuclear pore complex protein Nup85 | J | J | 656 |
| 2 | 11 | 6 | Nuclear pore complex protein Nup98-Nup96 | K | K | 1816 |
| 2 | 12 | 6 | Nuclear pore complex protein Nup98-Nup96 | L | L | 1816 |
| 2 | 13 | 7 | Protein SEC13 homolog | M | M | 322 |
| 2 | 14 | 7 | Protein SEC13 homolog | N | N | 322 |
| 2 | 15 | 8 | Nucleoporin SEH1 | O | O | 360 |
| 2 | 16 | 8 | Nucleoporin SEH1 | P | P | 360 |
| 2 | 17 | 9 | Nuclear pore complex protein Nup107 | Q | Q | 926 |
| 2 | 18 | 9 | Nuclear pore complex protein Nup107 | R | R | 926 |
| 2 | 19 | 10 | Nuclear pore complex protein Nup133 | S | S | 1155 |
| 2 | 20 | 10 | Nuclear pore complex protein Nup133 | T | T | 1155 |
| 2 | 21 | 11 | Nucleoporin Nup37 | U | U | 326 |
| 2 | 22 | 11 | Nucleoporin Nup37 | V | V | 326 |
| 2 | 23 | 12 | Nucleoporin Nup43 | W | W | 380 |
| 2 | 24 | 12 | Nucleoporin Nup43 | X | X | 380 |

| Model ID | Subunit number | Subunit ID | Subunit name | Chain ID | Chain ID [auth] | Total residues |
|-----------------|-----------------------|-------------------|--|-----------------|------------------------|-----------------------|
| 3 | 1 | 1 | Nucleoprotein TPR | A | A | 2431 |
| 3 | 2 | 1 | Nucleoprotein TPR | B | B | 2431 |
| 3 | 3 | 2 | Nuclear pore complex protein Nup50 | C | C | 466 |
| 3 | 4 | 2 | Nuclear pore complex protein Nup50 | D | D | 466 |
| 3 | 5 | 3 | Nucleoporin 153 | E | E | 1462 |
| 3 | 6 | 3 | Nucleoporin 153 | F | F | 1462 |
| 3 | 7 | 4 | Nuclear pore complex protein Nup160 | G | G | 1402 |
| 3 | 8 | 4 | Nuclear pore complex protein Nup160 | H | H | 1402 |
| 3 | 9 | 5 | Nuclear pore complex protein Nup85 | I | I | 656 |
| 3 | 10 | 5 | Nuclear pore complex protein Nup85 | J | J | 656 |
| 3 | 11 | 6 | Nuclear pore complex protein Nup98-Nup96 | K | K | 1816 |
| 3 | 12 | 6 | Nuclear pore complex protein Nup98-Nup96 | L | L | 1816 |
| 3 | 13 | 7 | Protein SEC13 homolog | M | M | 322 |
| 3 | 14 | 7 | Protein SEC13 homolog | N | N | 322 |
| 3 | 15 | 8 | Nucleoporin SEH1 | O | O | 360 |
| 3 | 16 | 8 | Nucleoporin SEH1 | P | P | 360 |
| 3 | 17 | 9 | Nuclear pore complex protein Nup107 | Q | Q | 926 |
| 3 | 18 | 9 | Nuclear pore complex protein Nup107 | R | R | 926 |

| Model ID | Subunit number | Subunit ID | Subunit name | Chain ID | Chain ID [auth] | Total residues |
|-----------------|-----------------------|-------------------|--|-----------------|------------------------|-----------------------|
| 3 | 19 | 10 | Nuclear pore complex protein Nup133 | S | S | 1155 |
| 3 | 20 | 10 | Nuclear pore complex protein Nup133 | T | T | 1155 |
| 3 | 21 | 11 | Nucleoporin Nup37 | U | U | 326 |
| 3 | 22 | 11 | Nucleoporin Nup37 | V | V | 326 |
| 3 | 23 | 12 | Nucleoporin Nup43 | W | W | 380 |
| 3 | 24 | 12 | Nucleoporin Nup43 | X | X | 380 |
| 4 | 1 | 1 | Nucleoprotein TPR | A | A | 2431 |
| 4 | 2 | 1 | Nucleoprotein TPR | B | B | 2431 |
| 4 | 3 | 2 | Nuclear pore complex protein Nup50 | C | C | 466 |
| 4 | 4 | 2 | Nuclear pore complex protein Nup50 | D | D | 466 |
| 4 | 5 | 3 | Nucleoporin 153 | E | E | 1462 |
| 4 | 6 | 3 | Nucleoporin 153 | F | F | 1462 |
| 4 | 7 | 4 | Nuclear pore complex protein Nup160 | G | G | 1402 |
| 4 | 8 | 4 | Nuclear pore complex protein Nup160 | H | H | 1402 |
| 4 | 9 | 5 | Nuclear pore complex protein Nup85 | I | I | 656 |
| 4 | 10 | 5 | Nuclear pore complex protein Nup85 | J | J | 656 |
| 4 | 11 | 6 | Nuclear pore complex protein Nup98-Nup96 | K | K | 1816 |
| 4 | 12 | 6 | Nuclear pore complex protein Nup98-Nup96 | L | L | 1816 |

| Model ID | Subunit number | Subunit ID | Subunit name | Chain ID | Chain ID [auth] | Total residues |
|-----------------|-----------------------|-------------------|-------------------------------------|-----------------|------------------------|-----------------------|
| 4 | 13 | 7 | Protein SEC13 homolog | M | M | 322 |
| 4 | 14 | 7 | Protein SEC13 homolog | N | N | 322 |
| 4 | 15 | 8 | Nucleoporin SEH1 | O | O | 360 |
| 4 | 16 | 8 | Nucleoporin SEH1 | P | P | 360 |
| 4 | 17 | 9 | Nuclear pore complex protein Nup107 | Q | Q | 926 |
| 4 | 18 | 9 | Nuclear pore complex protein Nup107 | R | R | 926 |
| 4 | 19 | 10 | Nuclear pore complex protein Nup133 | S | S | 1155 |
| 4 | 20 | 10 | Nuclear pore complex protein Nup133 | T | T | 1155 |
| 4 | 21 | 11 | Nucleoporin Nup37 | U | U | 326 |
| 4 | 22 | 11 | Nucleoporin Nup37 | V | V | 326 |
| 4 | 23 | 12 | Nucleoporin Nup43 | W | W | 380 |
| 4 | 24 | 12 | Nucleoporin Nup43 | X | X | 380 |
| 5 | 1 | 1 | Nucleoprotein TPR | A | A | 2431 |
| 5 | 2 | 1 | Nucleoprotein TPR | B | B | 2431 |
| 5 | 3 | 2 | Nuclear pore complex protein Nup50 | C | C | 466 |
| 5 | 4 | 2 | Nuclear pore complex protein Nup50 | D | D | 466 |
| 5 | 5 | 3 | Nucleoporin 153 | E | E | 1462 |
| 5 | 6 | 3 | Nucleoporin 153 | F | F | 1462 |
| 5 | 7 | 4 | Nuclear pore complex protein Nup160 | G | G | 1402 |

| Model ID | Subunit number | Subunit ID | Subunit name | Chain ID | Chain ID [auth] | Total residues |
|-----------------|-----------------------|-------------------|--|-----------------|------------------------|-----------------------|
| 5 | 8 | 4 | Nuclear pore complex protein Nup160 | H | H | 1402 |
| 5 | 9 | 5 | Nuclear pore complex protein Nup85 | I | I | 656 |
| 5 | 10 | 5 | Nuclear pore complex protein Nup85 | J | J | 656 |
| 5 | 11 | 6 | Nuclear pore complex protein Nup98-Nup96 | K | K | 1816 |
| 5 | 12 | 6 | Nuclear pore complex protein Nup98-Nup96 | L | L | 1816 |
| 5 | 13 | 7 | Protein SEC13 homolog | M | M | 322 |
| 5 | 14 | 7 | Protein SEC13 homolog | N | N | 322 |
| 5 | 15 | 8 | Nucleoporin SEH1 | O | O | 360 |
| 5 | 16 | 8 | Nucleoporin SEH1 | P | P | 360 |
| 5 | 17 | 9 | Nuclear pore complex protein Nup107 | Q | Q | 926 |
| 5 | 18 | 9 | Nuclear pore complex protein Nup107 | R | R | 926 |
| 5 | 19 | 10 | Nuclear pore complex protein Nup133 | S | S | 1155 |
| 5 | 20 | 10 | Nuclear pore complex protein Nup133 | T | T | 1155 |
| 5 | 21 | 11 | Nucleoporin Nup37 | U | U | 326 |
| 5 | 22 | 11 | Nucleoporin Nup37 | V | V | 326 |
| 5 | 23 | 12 | Nucleoporin Nup43 | W | W | 380 |
| 5 | 24 | 12 | Nucleoporin Nup43 | X | X | 380 |
| 6 | 1 | 1 | Nucleoprotein TPR | A | A | 2431 |

| Model ID | Subunit number | Subunit ID | Subunit name | Chain ID | Chain ID [auth] | Total residues |
|-----------------|-----------------------|-------------------|--|-----------------|------------------------|-----------------------|
| 6 | 2 | 1 | Nucleoprotein TPR | B | B | 2431 |
| 6 | 3 | 2 | Nuclear pore complex protein Nup50 | C | C | 466 |
| 6 | 4 | 2 | Nuclear pore complex protein Nup50 | D | D | 466 |
| 6 | 5 | 3 | Nucleoporin 153 | E | E | 1462 |
| 6 | 6 | 3 | Nucleoporin 153 | F | F | 1462 |
| 6 | 7 | 4 | Nuclear pore complex protein Nup160 | G | G | 1402 |
| 6 | 8 | 4 | Nuclear pore complex protein Nup160 | H | H | 1402 |
| 6 | 9 | 5 | Nuclear pore complex protein Nup85 | I | I | 656 |
| 6 | 10 | 5 | Nuclear pore complex protein Nup85 | J | J | 656 |
| 6 | 11 | 6 | Nuclear pore complex protein Nup98-Nup96 | K | K | 1816 |
| 6 | 12 | 6 | Nuclear pore complex protein Nup98-Nup96 | L | L | 1816 |
| 6 | 13 | 7 | Protein SEC13 homolog | M | M | 322 |
| 6 | 14 | 7 | Protein SEC13 homolog | N | N | 322 |
| 6 | 15 | 8 | Nucleoporin SEH1 | O | O | 360 |
| 6 | 16 | 8 | Nucleoporin SEH1 | P | P | 360 |
| 6 | 17 | 9 | Nuclear pore complex protein Nup107 | Q | Q | 926 |
| 6 | 18 | 9 | Nuclear pore complex protein Nup107 | R | R | 926 |

| Model ID | Subunit number | Subunit ID | Subunit name | Chain ID | Chain ID [auth] | Total residues |
|-----------------|-----------------------|-------------------|--|-----------------|------------------------|-----------------------|
| 6 | 19 | 10 | Nuclear pore complex protein Nup133 | S | S | 1155 |
| 6 | 20 | 10 | Nuclear pore complex protein Nup133 | T | T | 1155 |
| 6 | 21 | 11 | Nucleoporin Nup37 | U | U | 326 |
| 6 | 22 | 11 | Nucleoporin Nup37 | V | V | 326 |
| 6 | 23 | 12 | Nucleoporin Nup43 | W | W | 380 |
| 6 | 24 | 12 | Nucleoporin Nup43 | X | X | 380 |
| 7 | 1 | 1 | Nucleoprotein TPR | A | A | 2431 |
| 7 | 2 | 1 | Nucleoprotein TPR | B | B | 2431 |
| 7 | 3 | 2 | Nuclear pore complex protein Nup50 | C | C | 466 |
| 7 | 4 | 2 | Nuclear pore complex protein Nup50 | D | D | 466 |
| 7 | 5 | 3 | Nucleoporin 153 | E | E | 1462 |
| 7 | 6 | 3 | Nucleoporin 153 | F | F | 1462 |
| 7 | 7 | 4 | Nuclear pore complex protein Nup160 | G | G | 1402 |
| 7 | 8 | 4 | Nuclear pore complex protein Nup160 | H | H | 1402 |
| 7 | 9 | 5 | Nuclear pore complex protein Nup85 | I | I | 656 |
| 7 | 10 | 5 | Nuclear pore complex protein Nup85 | J | J | 656 |
| 7 | 11 | 6 | Nuclear pore complex protein Nup98-Nup96 | K | K | 1816 |
| 7 | 12 | 6 | Nuclear pore complex protein Nup98-Nup96 | L | L | 1816 |

| Model ID | Subunit number | Subunit ID | Subunit name | Chain ID | Chain ID [auth] | Total residues |
|-----------------|-----------------------|-------------------|-------------------------------------|-----------------|------------------------|-----------------------|
| 7 | 13 | 7 | Protein SEC13 homolog | M | M | 322 |
| 7 | 14 | 7 | Protein SEC13 homolog | N | N | 322 |
| 7 | 15 | 8 | Nucleoporin SEH1 | O | O | 360 |
| 7 | 16 | 8 | Nucleoporin SEH1 | P | P | 360 |
| 7 | 17 | 9 | Nuclear pore complex protein Nup107 | Q | Q | 926 |
| 7 | 18 | 9 | Nuclear pore complex protein Nup107 | R | R | 926 |
| 7 | 19 | 10 | Nuclear pore complex protein Nup133 | S | S | 1155 |
| 7 | 20 | 10 | Nuclear pore complex protein Nup133 | T | T | 1155 |
| 7 | 21 | 11 | Nucleoporin Nup37 | U | U | 326 |
| 7 | 22 | 11 | Nucleoporin Nup37 | V | V | 326 |
| 7 | 23 | 12 | Nucleoporin Nup43 | W | W | 380 |
| 7 | 24 | 12 | Nucleoporin Nup43 | X | X | 380 |
| 8 | 1 | 1 | Nucleoprotein TPR | A | A | 2431 |
| 8 | 2 | 1 | Nucleoprotein TPR | B | B | 2431 |
| 8 | 3 | 2 | Nuclear pore complex protein Nup50 | C | C | 466 |
| 8 | 4 | 2 | Nuclear pore complex protein Nup50 | D | D | 466 |
| 8 | 5 | 3 | Nucleoporin 153 | E | E | 1462 |
| 8 | 6 | 3 | Nucleoporin 153 | F | F | 1462 |
| 8 | 7 | 4 | Nuclear pore complex protein Nup160 | G | G | 1402 |

| Model ID | Subunit number | Subunit ID | Subunit name | Chain ID | Chain ID [auth] | Total residues |
|-----------------|-----------------------|-------------------|--|-----------------|------------------------|-----------------------|
| 8 | 8 | 4 | Nuclear pore complex protein Nup160 | H | H | 1402 |
| 8 | 9 | 5 | Nuclear pore complex protein Nup85 | I | I | 656 |
| 8 | 10 | 5 | Nuclear pore complex protein Nup85 | J | J | 656 |
| 8 | 11 | 6 | Nuclear pore complex protein Nup98-Nup96 | K | K | 1816 |
| 8 | 12 | 6 | Nuclear pore complex protein Nup98-Nup96 | L | L | 1816 |
| 8 | 13 | 7 | Protein SEC13 homolog | M | M | 322 |
| 8 | 14 | 7 | Protein SEC13 homolog | N | N | 322 |
| 8 | 15 | 8 | Nucleoporin SEH1 | O | O | 360 |
| 8 | 16 | 8 | Nucleoporin SEH1 | P | P | 360 |
| 8 | 17 | 9 | Nuclear pore complex protein Nup107 | Q | Q | 926 |
| 8 | 18 | 9 | Nuclear pore complex protein Nup107 | R | R | 926 |
| 8 | 19 | 10 | Nuclear pore complex protein Nup133 | S | S | 1155 |
| 8 | 20 | 10 | Nuclear pore complex protein Nup133 | T | T | 1155 |
| 8 | 21 | 11 | Nucleoporin Nup37 | U | U | 326 |
| 8 | 22 | 11 | Nucleoporin Nup37 | V | V | 326 |
| 8 | 23 | 12 | Nucleoporin Nup43 | W | W | 380 |
| 8 | 24 | 12 | Nucleoporin Nup43 | X | X | 380 |
| 9 | 1 | 1 | Nucleoprotein TPR | A | A | 2431 |

| Model ID | Subunit number | Subunit ID | Subunit name | Chain ID | Chain ID [auth] | Total residues |
|-----------------|-----------------------|-------------------|--|-----------------|------------------------|-----------------------|
| 9 | 2 | 1 | Nucleoprotein TPR | B | B | 2431 |
| 9 | 3 | 2 | Nuclear pore complex protein Nup50 | C | C | 466 |
| 9 | 4 | 2 | Nuclear pore complex protein Nup50 | D | D | 466 |
| 9 | 5 | 3 | Nucleoporin 153 | E | E | 1462 |
| 9 | 6 | 3 | Nucleoporin 153 | F | F | 1462 |
| 9 | 7 | 4 | Nuclear pore complex protein Nup160 | G | G | 1402 |
| 9 | 8 | 4 | Nuclear pore complex protein Nup160 | H | H | 1402 |
| 9 | 9 | 5 | Nuclear pore complex protein Nup85 | I | I | 656 |
| 9 | 10 | 5 | Nuclear pore complex protein Nup85 | J | J | 656 |
| 9 | 11 | 6 | Nuclear pore complex protein Nup98-Nup96 | K | K | 1816 |
| 9 | 12 | 6 | Nuclear pore complex protein Nup98-Nup96 | L | L | 1816 |
| 9 | 13 | 7 | Protein SEC13 homolog | M | M | 322 |
| 9 | 14 | 7 | Protein SEC13 homolog | N | N | 322 |
| 9 | 15 | 8 | Nucleoporin SEH1 | O | O | 360 |
| 9 | 16 | 8 | Nucleoporin SEH1 | P | P | 360 |
| 9 | 17 | 9 | Nuclear pore complex protein Nup107 | Q | Q | 926 |
| 9 | 18 | 9 | Nuclear pore complex protein Nup107 | R | R | 926 |

| Model ID | Subunit number | Subunit ID | Subunit name | Chain ID | Chain ID [auth] | Total residues |
|-----------------|-----------------------|-------------------|--|-----------------|------------------------|-----------------------|
| 9 | 19 | 10 | Nuclear pore complex protein Nup133 | S | S | 1155 |
| 9 | 20 | 10 | Nuclear pore complex protein Nup133 | T | T | 1155 |
| 9 | 21 | 11 | Nucleoporin Nup37 | U | U | 326 |
| 9 | 22 | 11 | Nucleoporin Nup37 | V | V | 326 |
| 9 | 23 | 12 | Nucleoporin Nup43 | W | W | 380 |
| 9 | 24 | 12 | Nucleoporin Nup43 | X | X | 380 |
| 10 | 1 | 1 | Nucleoprotein TPR | A | A | 2431 |
| 10 | 2 | 1 | Nucleoprotein TPR | B | B | 2431 |
| 10 | 3 | 2 | Nuclear pore complex protein Nup50 | C | C | 466 |
| 10 | 4 | 2 | Nuclear pore complex protein Nup50 | D | D | 466 |
| 10 | 5 | 3 | Nucleoporin 153 | E | E | 1462 |
| 10 | 6 | 3 | Nucleoporin 153 | F | F | 1462 |
| 10 | 7 | 4 | Nuclear pore complex protein Nup160 | G | G | 1402 |
| 10 | 8 | 4 | Nuclear pore complex protein Nup160 | H | H | 1402 |
| 10 | 9 | 5 | Nuclear pore complex protein Nup85 | I | I | 656 |
| 10 | 10 | 5 | Nuclear pore complex protein Nup85 | J | J | 656 |
| 10 | 11 | 6 | Nuclear pore complex protein Nup98-Nup96 | K | K | 1816 |
| 10 | 12 | 6 | Nuclear pore complex protein Nup98-Nup96 | L | L | 1816 |

| Model ID | Subunit number | Subunit ID | Subunit name | Chain ID | Chain ID [auth] | Total residues |
|-----------------|-----------------------|-------------------|-------------------------------------|-----------------|------------------------|-----------------------|
| 10 | 13 | 7 | Protein SEC13 homolog | M | M | 322 |
| 10 | 14 | 7 | Protein SEC13 homolog | N | N | 322 |
| 10 | 15 | 8 | Nucleoporin SEH1 | O | O | 360 |
| 10 | 16 | 8 | Nucleoporin SEH1 | P | P | 360 |
| 10 | 17 | 9 | Nuclear pore complex protein Nup107 | Q | Q | 926 |
| 10 | 18 | 9 | Nuclear pore complex protein Nup107 | R | R | 926 |
| 10 | 19 | 10 | Nuclear pore complex protein Nup133 | S | S | 1155 |
| 10 | 20 | 10 | Nuclear pore complex protein Nup133 | T | T | 1155 |
| 10 | 21 | 11 | Nucleoporin Nup37 | U | U | 326 |
| 10 | 22 | 11 | Nucleoporin Nup37 | V | V | 326 |
| 10 | 23 | 12 | Nucleoporin Nup43 | W | W | 380 |
| 10 | 24 | 12 | Nucleoporin Nup43 | X | X | 380 |
| 11 | 1 | 1 | Nucleoprotein TPR | A | A | 2431 |
| 11 | 2 | 1 | Nucleoprotein TPR | B | B | 2431 |
| 11 | 3 | 2 | Nuclear pore complex protein Nup50 | C | C | 466 |
| 11 | 4 | 2 | Nuclear pore complex protein Nup50 | D | D | 466 |
| 11 | 5 | 3 | Nucleoporin 153 | E | E | 1462 |
| 11 | 6 | 3 | Nucleoporin 153 | F | F | 1462 |
| 11 | 7 | 4 | Nuclear pore complex protein Nup160 | G | G | 1402 |

| Model ID | Subunit number | Subunit ID | Subunit name | Chain ID | Chain ID [auth] | Total residues |
|-----------------|-----------------------|-------------------|--|-----------------|------------------------|-----------------------|
| 11 | 8 | 4 | Nuclear pore complex protein Nup160 | H | H | 1402 |
| 11 | 9 | 5 | Nuclear pore complex protein Nup85 | I | I | 656 |
| 11 | 10 | 5 | Nuclear pore complex protein Nup85 | J | J | 656 |
| 11 | 11 | 6 | Nuclear pore complex protein Nup98-Nup96 | K | K | 1816 |
| 11 | 12 | 6 | Nuclear pore complex protein Nup98-Nup96 | L | L | 1816 |
| 11 | 13 | 7 | Protein SEC13 homolog | M | M | 322 |
| 11 | 14 | 7 | Protein SEC13 homolog | N | N | 322 |
| 11 | 15 | 8 | Nucleoporin SEH1 | O | O | 360 |
| 11 | 16 | 8 | Nucleoporin SEH1 | P | P | 360 |
| 11 | 17 | 9 | Nuclear pore complex protein Nup107 | Q | Q | 926 |
| 11 | 18 | 9 | Nuclear pore complex protein Nup107 | R | R | 926 |
| 11 | 19 | 10 | Nuclear pore complex protein Nup133 | S | S | 1155 |
| 11 | 20 | 10 | Nuclear pore complex protein Nup133 | T | T | 1155 |
| 11 | 21 | 11 | Nucleoporin Nup37 | U | U | 326 |
| 11 | 22 | 11 | Nucleoporin Nup37 | V | V | 326 |
| 11 | 23 | 12 | Nucleoporin Nup43 | W | W | 380 |
| 11 | 24 | 12 | Nucleoporin Nup43 | X | X | 380 |
| 12 | 1 | 1 | Nucleoprotein TPR | A | A | 2431 |

| Model ID | Subunit number | Subunit ID | Subunit name | Chain ID | Chain ID [auth] | Total residues |
|-----------------|-----------------------|-------------------|--|-----------------|------------------------|-----------------------|
| 12 | 2 | 1 | Nucleoprotein TPR | B | B | 2431 |
| 12 | 3 | 2 | Nuclear pore complex protein Nup50 | C | C | 466 |
| 12 | 4 | 2 | Nuclear pore complex protein Nup50 | D | D | 466 |
| 12 | 5 | 3 | Nucleoporin 153 | E | E | 1462 |
| 12 | 6 | 3 | Nucleoporin 153 | F | F | 1462 |
| 12 | 7 | 4 | Nuclear pore complex protein Nup160 | G | G | 1402 |
| 12 | 8 | 4 | Nuclear pore complex protein Nup160 | H | H | 1402 |
| 12 | 9 | 5 | Nuclear pore complex protein Nup85 | I | I | 656 |
| 12 | 10 | 5 | Nuclear pore complex protein Nup85 | J | J | 656 |
| 12 | 11 | 6 | Nuclear pore complex protein Nup98-Nup96 | K | K | 1816 |
| 12 | 12 | 6 | Nuclear pore complex protein Nup98-Nup96 | L | L | 1816 |
| 12 | 13 | 7 | Protein SEC13 homolog | M | M | 322 |
| 12 | 14 | 7 | Protein SEC13 homolog | N | N | 322 |
| 12 | 15 | 8 | Nucleoporin SEH1 | O | O | 360 |
| 12 | 16 | 8 | Nucleoporin SEH1 | P | P | 360 |
| 12 | 17 | 9 | Nuclear pore complex protein Nup107 | Q | Q | 926 |
| 12 | 18 | 9 | Nuclear pore complex protein Nup107 | R | R | 926 |

| Model ID | Subunit number | Subunit ID | Subunit name | Chain ID | Chain ID [auth] | Total residues |
|-----------------|-----------------------|-------------------|--|-----------------|------------------------|-----------------------|
| 12 | 19 | 10 | Nuclear pore complex protein Nup133 | S | S | 1155 |
| 12 | 20 | 10 | Nuclear pore complex protein Nup133 | T | T | 1155 |
| 12 | 21 | 11 | Nucleoporin Nup37 | U | U | 326 |
| 12 | 22 | 11 | Nucleoporin Nup37 | V | V | 326 |
| 12 | 23 | 12 | Nucleoporin Nup43 | W | W | 380 |
| 12 | 24 | 12 | Nucleoporin Nup43 | X | X | 380 |
| 13 | 1 | 1 | Nucleoprotein TPR | A | A | 2431 |
| 13 | 2 | 1 | Nucleoprotein TPR | B | B | 2431 |
| 13 | 3 | 2 | Nuclear pore complex protein Nup50 | C | C | 466 |
| 13 | 4 | 2 | Nuclear pore complex protein Nup50 | D | D | 466 |
| 13 | 5 | 3 | Nucleoporin 153 | E | E | 1462 |
| 13 | 6 | 3 | Nucleoporin 153 | F | F | 1462 |
| 13 | 7 | 4 | Nuclear pore complex protein Nup160 | G | G | 1402 |
| 13 | 8 | 4 | Nuclear pore complex protein Nup160 | H | H | 1402 |
| 13 | 9 | 5 | Nuclear pore complex protein Nup85 | I | I | 656 |
| 13 | 10 | 5 | Nuclear pore complex protein Nup85 | J | J | 656 |
| 13 | 11 | 6 | Nuclear pore complex protein Nup98-Nup96 | K | K | 1816 |

| Model ID | Subunit number | Subunit ID | Subunit name | Chain ID | Chain ID [auth] | Total residues |
|-----------------|-----------------------|-------------------|--|-----------------|------------------------|-----------------------|
| 13 | 12 | 6 | Nuclear pore complex protein Nup98-Nup96 | L | L | 1816 |
| 13 | 13 | 7 | Protein SEC13 homolog | M | M | 322 |
| 13 | 14 | 7 | Protein SEC13 homolog | N | N | 322 |
| 13 | 15 | 8 | Nucleoporin SEH1 | O | O | 360 |
| 13 | 16 | 8 | Nucleoporin SEH1 | P | P | 360 |
| 13 | 17 | 9 | Nuclear pore complex protein Nup107 | Q | Q | 926 |
| 13 | 18 | 9 | Nuclear pore complex protein Nup107 | R | R | 926 |
| 13 | 19 | 10 | Nuclear pore complex protein Nup133 | S | S | 1155 |
| 13 | 20 | 10 | Nuclear pore complex protein Nup133 | T | T | 1155 |
| 13 | 21 | 11 | Nucleoporin Nup37 | U | U | 326 |
| 13 | 22 | 11 | Nucleoporin Nup37 | V | V | 326 |
| 13 | 23 | 12 | Nucleoporin Nup43 | W | W | 380 |
| 13 | 24 | 12 | Nucleoporin Nup43 | X | X | 380 |
| 14 | 1 | 1 | Nucleoprotein TPR | A | A | 2431 |
| 14 | 2 | 1 | Nucleoprotein TPR | B | B | 2431 |
| 14 | 3 | 2 | Nuclear pore complex protein Nup50 | C | C | 466 |
| 14 | 4 | 2 | Nuclear pore complex protein Nup50 | D | D | 466 |
| 14 | 5 | 3 | Nucleoporin 153 | E | E | 1462 |
| 14 | 6 | 3 | Nucleoporin 153 | F | F | 1462 |

| Model ID | Subunit number | Subunit ID | Subunit name | Chain ID | Chain ID [auth] | Total residues |
|-----------------|-----------------------|-------------------|--|-----------------|------------------------|-----------------------|
| 14 | 7 | 4 | Nuclear pore complex protein Nup160 | G | G | 1402 |
| 14 | 8 | 4 | Nuclear pore complex protein Nup160 | H | H | 1402 |
| 14 | 9 | 5 | Nuclear pore complex protein Nup85 | I | I | 656 |
| 14 | 10 | 5 | Nuclear pore complex protein Nup85 | J | J | 656 |
| 14 | 11 | 6 | Nuclear pore complex protein Nup98-Nup96 | K | K | 1816 |
| 14 | 12 | 6 | Nuclear pore complex protein Nup98-Nup96 | L | L | 1816 |
| 14 | 13 | 7 | Protein SEC13 homolog | M | M | 322 |
| 14 | 14 | 7 | Protein SEC13 homolog | N | N | 322 |
| 14 | 15 | 8 | Nucleoporin SEH1 | O | O | 360 |
| 14 | 16 | 8 | Nucleoporin SEH1 | P | P | 360 |
| 14 | 17 | 9 | Nuclear pore complex protein Nup107 | Q | Q | 926 |
| 14 | 18 | 9 | Nuclear pore complex protein Nup107 | R | R | 926 |
| 14 | 19 | 10 | Nuclear pore complex protein Nup133 | S | S | 1155 |
| 14 | 20 | 10 | Nuclear pore complex protein Nup133 | T | T | 1155 |
| 14 | 21 | 11 | Nucleoporin Nup37 | U | U | 326 |
| 14 | 22 | 11 | Nucleoporin Nup37 | V | V | 326 |
| 14 | 23 | 12 | Nucleoporin Nup43 | W | W | 380 |

| Model ID | Subunit number | Subunit ID | Subunit name | Chain ID | Chain ID [auth] | Total residues |
|-----------------|-----------------------|-------------------|--|-----------------|------------------------|-----------------------|
| 14 | 24 | 12 | Nucleoporin Nup43 | X | X | 380 |
| 15 | 1 | 1 | Nucleoprotein TPR | A | A | 2431 |
| 15 | 2 | 1 | Nucleoprotein TPR | B | B | 2431 |
| 15 | 3 | 2 | Nuclear pore complex protein Nup50 | C | C | 466 |
| 15 | 4 | 2 | Nuclear pore complex protein Nup50 | D | D | 466 |
| 15 | 5 | 3 | Nucleoporin 153 | E | E | 1462 |
| 15 | 6 | 3 | Nucleoporin 153 | F | F | 1462 |
| 15 | 7 | 4 | Nuclear pore complex protein Nup160 | G | G | 1402 |
| 15 | 8 | 4 | Nuclear pore complex protein Nup160 | H | H | 1402 |
| 15 | 9 | 5 | Nuclear pore complex protein Nup85 | I | I | 656 |
| 15 | 10 | 5 | Nuclear pore complex protein Nup85 | J | J | 656 |
| 15 | 11 | 6 | Nuclear pore complex protein Nup98-Nup96 | K | K | 1816 |
| 15 | 12 | 6 | Nuclear pore complex protein Nup98-Nup96 | L | L | 1816 |
| 15 | 13 | 7 | Protein SEC13 homolog | M | M | 322 |
| 15 | 14 | 7 | Protein SEC13 homolog | N | N | 322 |
| 15 | 15 | 8 | Nucleoporin SEH1 | O | O | 360 |
| 15 | 16 | 8 | Nucleoporin SEH1 | P | P | 360 |
| 15 | 17 | 9 | Nuclear pore complex protein Nup107 | Q | Q | 926 |

| Model ID | Subunit number | Subunit ID | Subunit name | Chain ID | Chain ID [auth] | Total residues |
|-----------------|-----------------------|-------------------|--|-----------------|------------------------|-----------------------|
| 15 | 18 | 9 | Nuclear pore complex protein Nup107 | R | R | 926 |
| 15 | 19 | 10 | Nuclear pore complex protein Nup133 | S | S | 1155 |
| 15 | 20 | 10 | Nuclear pore complex protein Nup133 | T | T | 1155 |
| 15 | 21 | 11 | Nucleoporin Nup37 | U | U | 326 |
| 15 | 22 | 11 | Nucleoporin Nup37 | V | V | 326 |
| 15 | 23 | 12 | Nucleoporin Nup43 | W | W | 380 |
| 15 | 24 | 12 | Nucleoporin Nup43 | X | X | 380 |
| 16 | 1 | 1 | Nucleoprotein TPR | A | A | 2431 |
| 16 | 2 | 1 | Nucleoprotein TPR | B | B | 2431 |
| 16 | 3 | 2 | Nuclear pore complex protein Nup50 | C | C | 466 |
| 16 | 4 | 2 | Nuclear pore complex protein Nup50 | D | D | 466 |
| 16 | 5 | 3 | Nucleoporin 153 | E | E | 1462 |
| 16 | 6 | 3 | Nucleoporin 153 | F | F | 1462 |
| 16 | 7 | 4 | Nuclear pore complex protein Nup160 | G | G | 1402 |
| 16 | 8 | 4 | Nuclear pore complex protein Nup160 | H | H | 1402 |
| 16 | 9 | 5 | Nuclear pore complex protein Nup85 | I | I | 656 |
| 16 | 10 | 5 | Nuclear pore complex protein Nup85 | J | J | 656 |
| 16 | 11 | 6 | Nuclear pore complex protein Nup98-Nup96 | K | K | 1816 |

| Model ID | Subunit number | Subunit ID | Subunit name | Chain ID | Chain ID [auth] | Total residues |
|-----------------|-----------------------|-------------------|--|-----------------|------------------------|-----------------------|
| 16 | 12 | 6 | Nuclear pore complex protein Nup98-Nup96 | L | L | 1816 |
| 16 | 13 | 7 | Protein SEC13 homolog | M | M | 322 |
| 16 | 14 | 7 | Protein SEC13 homolog | N | N | 322 |
| 16 | 15 | 8 | Nucleoporin SEH1 | O | O | 360 |
| 16 | 16 | 8 | Nucleoporin SEH1 | P | P | 360 |
| 16 | 17 | 9 | Nuclear pore complex protein Nup107 | Q | Q | 926 |
| 16 | 18 | 9 | Nuclear pore complex protein Nup107 | R | R | 926 |
| 16 | 19 | 10 | Nuclear pore complex protein Nup133 | S | S | 1155 |
| 16 | 20 | 10 | Nuclear pore complex protein Nup133 | T | T | 1155 |
| 16 | 21 | 11 | Nucleoporin Nup37 | U | U | 326 |
| 16 | 22 | 11 | Nucleoporin Nup37 | V | V | 326 |
| 16 | 23 | 12 | Nucleoporin Nup43 | W | W | 380 |
| 16 | 24 | 12 | Nucleoporin Nup43 | X | X | 380 |
| 17 | 1 | 1 | Nucleoprotein TPR | A | A | 2431 |
| 17 | 2 | 1 | Nucleoprotein TPR | B | B | 2431 |
| 17 | 3 | 2 | Nuclear pore complex protein Nup50 | C | C | 466 |
| 17 | 4 | 2 | Nuclear pore complex protein Nup50 | D | D | 466 |
| 17 | 5 | 3 | Nucleoporin 153 | E | E | 1462 |
| 17 | 6 | 3 | Nucleoporin 153 | F | F | 1462 |

| Model ID | Subunit number | Subunit ID | Subunit name | Chain ID | Chain ID [auth] | Total residues |
|-----------------|-----------------------|-------------------|--|-----------------|------------------------|-----------------------|
| 17 | 7 | 4 | Nuclear pore complex protein Nup160 | G | G | 1402 |
| 17 | 8 | 4 | Nuclear pore complex protein Nup160 | H | H | 1402 |
| 17 | 9 | 5 | Nuclear pore complex protein Nup85 | I | I | 656 |
| 17 | 10 | 5 | Nuclear pore complex protein Nup85 | J | J | 656 |
| 17 | 11 | 6 | Nuclear pore complex protein Nup98-Nup96 | K | K | 1816 |
| 17 | 12 | 6 | Nuclear pore complex protein Nup98-Nup96 | L | L | 1816 |
| 17 | 13 | 7 | Protein SEC13 homolog | M | M | 322 |
| 17 | 14 | 7 | Protein SEC13 homolog | N | N | 322 |
| 17 | 15 | 8 | Nucleoporin SEH1 | O | O | 360 |
| 17 | 16 | 8 | Nucleoporin SEH1 | P | P | 360 |
| 17 | 17 | 9 | Nuclear pore complex protein Nup107 | Q | Q | 926 |
| 17 | 18 | 9 | Nuclear pore complex protein Nup107 | R | R | 926 |
| 17 | 19 | 10 | Nuclear pore complex protein Nup133 | S | S | 1155 |
| 17 | 20 | 10 | Nuclear pore complex protein Nup133 | T | T | 1155 |
| 17 | 21 | 11 | Nucleoporin Nup37 | U | U | 326 |
| 17 | 22 | 11 | Nucleoporin Nup37 | V | V | 326 |
| 17 | 23 | 12 | Nucleoporin Nup43 | W | W | 380 |
| 17 | 24 | 12 | Nucleoporin Nup43 | X | X | 380 |

| Model ID | Subunit number | Subunit ID | Subunit name | Chain ID | Chain ID [auth] | Total residues |
|-----------------|-----------------------|-------------------|--|-----------------|------------------------|-----------------------|
| 18 | 1 | 1 | Nucleoprotein TPR | A | A | 2431 |
| 18 | 2 | 1 | Nucleoprotein TPR | B | B | 2431 |
| 18 | 3 | 2 | Nuclear pore complex protein Nup50 | C | C | 466 |
| 18 | 4 | 2 | Nuclear pore complex protein Nup50 | D | D | 466 |
| 18 | 5 | 3 | Nucleoporin 153 | E | E | 1462 |
| 18 | 6 | 3 | Nucleoporin 153 | F | F | 1462 |
| 18 | 7 | 4 | Nuclear pore complex protein Nup160 | G | G | 1402 |
| 18 | 8 | 4 | Nuclear pore complex protein Nup160 | H | H | 1402 |
| 18 | 9 | 5 | Nuclear pore complex protein Nup85 | I | I | 656 |
| 18 | 10 | 5 | Nuclear pore complex protein Nup85 | J | J | 656 |
| 18 | 11 | 6 | Nuclear pore complex protein Nup98-Nup96 | K | K | 1816 |
| 18 | 12 | 6 | Nuclear pore complex protein Nup98-Nup96 | L | L | 1816 |
| 18 | 13 | 7 | Protein SEC13 homolog | M | M | 322 |
| 18 | 14 | 7 | Protein SEC13 homolog | N | N | 322 |
| 18 | 15 | 8 | Nucleoporin SEH1 | O | O | 360 |
| 18 | 16 | 8 | Nucleoporin SEH1 | P | P | 360 |
| 18 | 17 | 9 | Nuclear pore complex protein Nup107 | Q | Q | 926 |
| 18 | 18 | 9 | Nuclear pore complex protein Nup107 | R | R | 926 |

| Model ID | Subunit number | Subunit ID | Subunit name | Chain ID | Chain ID [auth] | Total residues |
|-----------------|-----------------------|-------------------|--|-----------------|------------------------|-----------------------|
| 18 | 19 | 10 | Nuclear pore complex protein Nup133 | S | S | 1155 |
| 18 | 20 | 10 | Nuclear pore complex protein Nup133 | T | T | 1155 |
| 18 | 21 | 11 | Nucleoporin Nup37 | U | U | 326 |
| 18 | 22 | 11 | Nucleoporin Nup37 | V | V | 326 |
| 18 | 23 | 12 | Nucleoporin Nup43 | W | W | 380 |
| 18 | 24 | 12 | Nucleoporin Nup43 | X | X | 380 |
| 19 | 1 | 1 | Nucleoprotein TPR | A | A | 2431 |
| 19 | 2 | 1 | Nucleoprotein TPR | B | B | 2431 |
| 19 | 3 | 2 | Nuclear pore complex protein Nup50 | C | C | 466 |
| 19 | 4 | 2 | Nuclear pore complex protein Nup50 | D | D | 466 |
| 19 | 5 | 3 | Nucleoporin 153 | E | E | 1462 |
| 19 | 6 | 3 | Nucleoporin 153 | F | F | 1462 |
| 19 | 7 | 4 | Nuclear pore complex protein Nup160 | G | G | 1402 |
| 19 | 8 | 4 | Nuclear pore complex protein Nup160 | H | H | 1402 |
| 19 | 9 | 5 | Nuclear pore complex protein Nup85 | I | I | 656 |
| 19 | 10 | 5 | Nuclear pore complex protein Nup85 | J | J | 656 |
| 19 | 11 | 6 | Nuclear pore complex protein Nup98-Nup96 | K | K | 1816 |
| 19 | 12 | 6 | Nuclear pore complex protein Nup98-Nup96 | L | L | 1816 |

| Model ID | Subunit number | Subunit ID | Subunit name | Chain ID | Chain ID [auth] | Total residues |
|-----------------|-----------------------|-------------------|-------------------------------------|-----------------|------------------------|-----------------------|
| 19 | 13 | 7 | Protein SEC13 homolog | M | M | 322 |
| 19 | 14 | 7 | Protein SEC13 homolog | N | N | 322 |
| 19 | 15 | 8 | Nucleoporin SEH1 | O | O | 360 |
| 19 | 16 | 8 | Nucleoporin SEH1 | P | P | 360 |
| 19 | 17 | 9 | Nuclear pore complex protein Nup107 | Q | Q | 926 |
| 19 | 18 | 9 | Nuclear pore complex protein Nup107 | R | R | 926 |
| 19 | 19 | 10 | Nuclear pore complex protein Nup133 | S | S | 1155 |
| 19 | 20 | 10 | Nuclear pore complex protein Nup133 | T | T | 1155 |
| 19 | 21 | 11 | Nucleoporin Nup37 | U | U | 326 |
| 19 | 22 | 11 | Nucleoporin Nup37 | V | V | 326 |
| 19 | 23 | 12 | Nucleoporin Nup43 | W | W | 380 |
| 19 | 24 | 12 | Nucleoporin Nup43 | X | X | 380 |
| 20 | 1 | 1 | Nucleoprotein TPR | A | A | 2431 |
| 20 | 2 | 1 | Nucleoprotein TPR | B | B | 2431 |
| 20 | 3 | 2 | Nuclear pore complex protein Nup50 | C | C | 466 |
| 20 | 4 | 2 | Nuclear pore complex protein Nup50 | D | D | 466 |
| 20 | 5 | 3 | Nucleoporin 153 | E | E | 1462 |
| 20 | 6 | 3 | Nucleoporin 153 | F | F | 1462 |
| 20 | 7 | 4 | Nuclear pore complex protein Nup160 | G | G | 1402 |

| Model ID | Subunit number | Subunit ID | Subunit name | Chain ID | Chain ID [auth] | Total residues |
|-----------------|-----------------------|-------------------|--|-----------------|------------------------|-----------------------|
| 20 | 8 | 4 | Nuclear pore complex protein Nup160 | H | H | 1402 |
| 20 | 9 | 5 | Nuclear pore complex protein Nup85 | I | I | 656 |
| 20 | 10 | 5 | Nuclear pore complex protein Nup85 | J | J | 656 |
| 20 | 11 | 6 | Nuclear pore complex protein Nup98-Nup96 | K | K | 1816 |
| 20 | 12 | 6 | Nuclear pore complex protein Nup98-Nup96 | L | L | 1816 |
| 20 | 13 | 7 | Protein SEC13 homolog | M | M | 322 |
| 20 | 14 | 7 | Protein SEC13 homolog | N | N | 322 |
| 20 | 15 | 8 | Nucleoporin SEH1 | O | O | 360 |
| 20 | 16 | 8 | Nucleoporin SEH1 | P | P | 360 |
| 20 | 17 | 9 | Nuclear pore complex protein Nup107 | Q | Q | 926 |
| 20 | 18 | 9 | Nuclear pore complex protein Nup107 | R | R | 926 |
| 20 | 19 | 10 | Nuclear pore complex protein Nup133 | S | S | 1155 |
| 20 | 20 | 10 | Nuclear pore complex protein Nup133 | T | T | 1155 |
| 20 | 21 | 11 | Nucleoporin Nup37 | U | U | 326 |
| 20 | 22 | 11 | Nucleoporin Nup37 | V | V | 326 |
| 20 | 23 | 12 | Nucleoporin Nup43 | W | W | 380 |
| 20 | 24 | 12 | Nucleoporin Nup43 | X | X | 380 |
| 21 | 1 | 1 | Nucleoprotein TPR | A | A | 2431 |

| Model ID | Subunit number | Subunit ID | Subunit name | Chain ID | Chain ID [auth] | Total residues |
|-----------------|-----------------------|-------------------|--|-----------------|------------------------|-----------------------|
| 21 | 2 | 1 | Nucleoprotein TPR | B | B | 2431 |
| 21 | 3 | 2 | Nuclear pore complex protein Nup50 | C | C | 466 |
| 21 | 4 | 2 | Nuclear pore complex protein Nup50 | D | D | 466 |
| 21 | 5 | 3 | Nucleoporin 153 | E | E | 1462 |
| 21 | 6 | 3 | Nucleoporin 153 | F | F | 1462 |
| 21 | 7 | 4 | Nuclear pore complex protein Nup160 | G | G | 1402 |
| 21 | 8 | 4 | Nuclear pore complex protein Nup160 | H | H | 1402 |
| 21 | 9 | 5 | Nuclear pore complex protein Nup85 | I | I | 656 |
| 21 | 10 | 5 | Nuclear pore complex protein Nup85 | J | J | 656 |
| 21 | 11 | 6 | Nuclear pore complex protein Nup98-Nup96 | K | K | 1816 |
| 21 | 12 | 6 | Nuclear pore complex protein Nup98-Nup96 | L | L | 1816 |
| 21 | 13 | 7 | Protein SEC13 homolog | M | M | 322 |
| 21 | 14 | 7 | Protein SEC13 homolog | N | N | 322 |
| 21 | 15 | 8 | Nucleoporin SEH1 | O | O | 360 |
| 21 | 16 | 8 | Nucleoporin SEH1 | P | P | 360 |
| 21 | 17 | 9 | Nuclear pore complex protein Nup107 | Q | Q | 926 |
| 21 | 18 | 9 | Nuclear pore complex protein Nup107 | R | R | 926 |

| Model ID | Subunit number | Subunit ID | Subunit name | Chain ID | Chain ID [auth] | Total residues |
|-----------------|-----------------------|-------------------|--|-----------------|------------------------|-----------------------|
| 21 | 19 | 10 | Nuclear pore complex protein Nup133 | S | S | 1155 |
| 21 | 20 | 10 | Nuclear pore complex protein Nup133 | T | T | 1155 |
| 21 | 21 | 11 | Nucleoporin Nup37 | U | U | 326 |
| 21 | 22 | 11 | Nucleoporin Nup37 | V | V | 326 |
| 21 | 23 | 12 | Nucleoporin Nup43 | W | W | 380 |
| 21 | 24 | 12 | Nucleoporin Nup43 | X | X | 380 |
| 22 | 1 | 1 | Nucleoprotein TPR | A | A | 2431 |
| 22 | 2 | 1 | Nucleoprotein TPR | B | B | 2431 |
| 22 | 3 | 2 | Nuclear pore complex protein Nup50 | C | C | 466 |
| 22 | 4 | 2 | Nuclear pore complex protein Nup50 | D | D | 466 |
| 22 | 5 | 3 | Nucleoporin 153 | E | E | 1462 |
| 22 | 6 | 3 | Nucleoporin 153 | F | F | 1462 |
| 22 | 7 | 4 | Nuclear pore complex protein Nup160 | G | G | 1402 |
| 22 | 8 | 4 | Nuclear pore complex protein Nup160 | H | H | 1402 |
| 22 | 9 | 5 | Nuclear pore complex protein Nup85 | I | I | 656 |
| 22 | 10 | 5 | Nuclear pore complex protein Nup85 | J | J | 656 |
| 22 | 11 | 6 | Nuclear pore complex protein Nup98-Nup96 | K | K | 1816 |
| 22 | 12 | 6 | Nuclear pore complex protein Nup98-Nup96 | L | L | 1816 |

| Model ID | Subunit number | Subunit ID | Subunit name | Chain ID | Chain ID [auth] | Total residues |
|----------|----------------|------------|-------------------------------------|----------|-----------------|----------------|
| 22 | 13 | 7 | Protein SEC13 homolog | M | M | 322 |
| 22 | 14 | 7 | Protein SEC13 homolog | N | N | 322 |
| 22 | 15 | 8 | Nucleoporin SEH1 | O | O | 360 |
| 22 | 16 | 8 | Nucleoporin SEH1 | P | P | 360 |
| 22 | 17 | 9 | Nuclear pore complex protein Nup107 | Q | Q | 926 |
| 22 | 18 | 9 | Nuclear pore complex protein Nup107 | R | R | 926 |
| 22 | 19 | 10 | Nuclear pore complex protein Nup133 | S | S | 1155 |
| 22 | 20 | 10 | Nuclear pore complex protein Nup133 | T | T | 1155 |
| 22 | 21 | 11 | Nucleoporin Nup37 | U | U | 326 |
| 22 | 22 | 11 | Nucleoporin Nup37 | V | V | 326 |
| 22 | 23 | 12 | Nucleoporin Nup43 | W | W | 380 |
| 22 | 24 | 12 | Nucleoporin Nup43 | X | X | 380 |

Datasets used for modeling

There are 6 unique datasets used to build the models in this entry.

| ID | Dataset type | Database name | Data access code |
|----|--------------------|---------------|-------------------------|
| 6 | 3DEM volume | File | 10.5281/zenodo.13131753 |
| 1 | De Novo model | File | 10.5281/zenodo.13131753 |
| 3 | Comparative model | File | 10.5281/zenodo.13131753 |
| 5 | 3DEM volume | File | 10.5281/zenodo.13131753 |
| 2 | Experimental model | PDB | 7r5j |

| ID | Dataset type | Database name | Data access code |
|----|--------------|---------------|------------------|
| 4 | 3DEM volume | EMDB | EMD-44379 |

Representation

This entry has only one representation and includes 74 rigid bodies and 54 flexible units

| Chain ID | Rigid bodies | Non-rigid segments |
|----------|--|---|
| E | 36-57 | 1-35, 58-428, 540-574 |
| F | 36-57 | 1-35, 58-428, 540-574 |
| A | 96-120, 124-180, 187-247, 254-285, 289-356, 360-405, 413-451, 511-595, 639-681, 757-883, 901-946, 947-999, 1004-1060, 1064-1106, 1107-1131, 1135-1163, 1170-1201, 1205-1254, 1281-1337, 1343-1420, 1424-1491, 1543-1616, 1627-1690 | 1-95, 121-123, 181-186, 248-253, 286-288, 357-359, 406-412, 452-510, 596-638, 682-756, 884-900, 1000-1003, 1061-1063, 1132-1134, 1164-1169, 1202-1204, 1255-1280, 1338-1342, 1421-1423, 1492-1542, 1617-1626, 1691-2431 |
| B | 96-120, 124-180, 187-247, 254-285, 289-356, 360-405, 413-451, 511-595, 639-681, 757-883, 901-946, 947-999, 1004-1060, 1064-1106, 1107-1131, 1135-1163, 1170-1201, 1205-1254, 1281-1337, 1343-1420, 1424-1491, 1543-1616, 1627-1690 | 1-95, 121-123, 181-186, 248-253, 286-288, 357-359, 406-412, 452-510, 596-638, 682-756, 884-900, 1000-1003, 1061-1063, 1132-1134, 1164-1169, 1202-1204, 1255-1280, 1338-1342, 1421-1423, 1492-1542, 1617-1626, 1691-2431 |
| C | 151-204, 355-466 | 1-150, 205-354 |
| D | 151-204, 355-466 | 1-150, 205-354 |
| G | 1-1402 | - |
| H | 1-1402 | - |
| I | 1-656 | - |
| J | 1-656 | - |
| K | 1111-1159, 1194-1816 | - |
| L | 1111-1159, 1194-1816 | - |
| M | 1-302 | - |

| Chain ID | Rigid bodies | Non-rigid segments |
|----------|----------------|--------------------|
| N | 1-302 | - |
| O | 1-324 | - |
| P | 1-324 | - |
| Q | 145-926 | - |
| R | 145-926 | - |
| S | 70-1155 | - |
| T | 70-1155 | - |
| U | 1-326 | - |
| V | 1-326 | - |
| W | 1-292, 327-380 | - |
| X | 1-292, 327-380 | - |

Methodology and software

This entry is a result of 1 distinct protocol(s).

| Step number | Protocol ID | Method name | Method type | Method description | Number of computed models | Multi state modeling | Multi scale modeling |
|-------------|-------------|------------------------------|-------------|--------------------|---------------------------|----------------------|----------------------|
| 1 | 1 | Replica exchange monte carlo | Sampling | None | 500 | False | True |
| 2 | 1 | Replica exchange monte carlo | Sampling | None | 9569309 | False | True |

There are 3 software packages reported in this entry.

| ID | Software name | Software version | Software classification | Software location |
|----|-------------------------------------|------------------|----------------------------|---|
| 1 | IMP PMI module | 2.19.0 | integrative model building | https://integrativemodeling.org |
| 3 | COCONUT | 1.0.0 | Coiled-coil model building | https://github.com/neeleshsoni21/COCONUT |
| 2 | Integrative Modeling Platform (IMP) | 2.18.0 | integrative model building | https://integrativemodeling.org |

Data quality

3DEM volume

Validation for this section is under development.

Model quality

For models with atomic structures, molprobit analysis is performed. For models with coarse-grained or multi-scale structures, excluded volume analysis is performed.

Excluded volume satisfaction

Excluded volume satisfaction for the models in the entry are listed below.

| Models | Excluded Volume Satisfaction (%) | Number of violations |
|--------|----------------------------------|----------------------|
| 1 | 99.96 | 39412.0 |
| 2 | 99.96 | 39409.0 |
| 3 | 99.96 | 39694.0 |
| 4 | 99.96 | 39195.0 |
| 5 | 99.96 | 39325.0 |
| 6 | 99.96 | 39716.0 |
| 7 | 99.96 | 39884.0 |
| 8 | 99.96 | 39444.0 |

| Models | Excluded Volume Satisfaction (%) | Number of violations |
|---------------|---|-----------------------------|
| 9 | 99.96 | 39381.0 |
| 10 | 99.96 | 39327.0 |
| 11 | 99.96 | 39609.0 |
| 12 | 99.96 | 39418.0 |
| 13 | 99.96 | 39437.0 |
| 14 | 99.96 | 39295.0 |
| 15 | 99.96 | 39387.0 |
| 16 | 99.96 | 39399.0 |
| 17 | 99.96 | 39414.0 |
| 18 | 99.96 | 39381.0 |
| 19 | 99.96 | 39123.0 |
| 20 | 99.96 | 39195.0 |
| 21 | 99.96 | 39336.0 |
| 22 | 99.96 | 39412.0 |

Fit of model to data used for modeling

3DEM volume

Validation for this section is under development.

Fit of model to data used for validation

Validation for this section is under development.

Development of integrative model validation metrics, implementation of a model validation pipeline, and creation of a validation report for integrative structures, are funded by NSF ABI awards (DBI-1756248, DBI-2112966, DBI-2112967, DBI-2112968, and DBI-1756250). The [PDB-Dev team](#) and members of [Sali lab](#) contributed model validation metrics and software packages.

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Members of the [wwPDB Integrative/Hybrid Methods Task Force](#) provided recommendations and community support for the project.