Integrative Structure Validation Report

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

Python-IHM Version 1.3
Integrative Modeling Validation Version 1.2

PDB ID	9A10
PDB-Dev ID	PDBDEV_00000072
Structure Title	Modeling of the interaction between doublecortin and microtubule, NDCs fixed at lateral orientation
Structure Authors	Rafiei A; Lee L; Crowder A; Saltzberg D; Sali A; Brouhard G; Schreimer DC

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

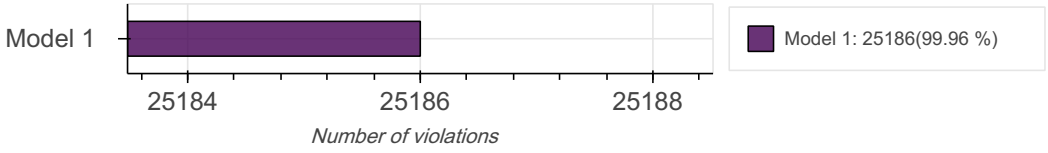
A user guide is available at https://pdb-dev.wwpdb.org/validation_help.html with specific help available everywhere you see the ? symbol.

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 1 unique models, with 26 subunits in each model. A total of 4 datasets or restraints were used to build this entry. Each model is represented by 52 rigid bodies and 4 flexible or non-rigid units.

Entry composition

There is 1 unique type of models in this entry. This model is titled Cluster 0/None.

Model ID	Subunit number	Subunit ID	Subunit name	Chain ID	Chain ID [auth]	Total residues
1	1	1	Doublecortin	A	A	365
1	2	1	Doublecortin	B	B	365
1	3	2	Alpha-Tubulin	C	C	451
1	4	2	Alpha-Tubulin	D	D	451
1	5	2	Alpha-Tubulin	E	E	451
1	6	2	Alpha-Tubulin	F	F	451
1	7	2	Alpha-Tubulin	G	G	451
1	8	2	Alpha-Tubulin	H	H	451
1	9	2	Alpha-Tubulin	I	I	451
1	10	2	Alpha-Tubulin	J	J	451
1	11	2	Alpha-Tubulin	K	K	451
1	12	2	Alpha-Tubulin	L	L	451
1	13	2	Alpha-Tubulin	M	M	451
1	14	2	Alpha-Tubulin	N	N	451

Model ID	Subunit number	Subunit ID	Subunit name	Chain ID	Chain ID [auth]	Total residues
1	15	3	Beta-Tubulin	O	O	445
1	16	3	Beta-Tubulin	P	P	445
1	17	3	Beta-Tubulin	Q	Q	445
1	18	3	Beta-Tubulin	R	R	445
1	19	3	Beta-Tubulin	S	S	445
1	20	3	Beta-Tubulin	T	T	445
1	21	3	Beta-Tubulin	U	U	445
1	22	3	Beta-Tubulin	V	V	445
1	23	3	Beta-Tubulin	W	W	445
1	24	3	Beta-Tubulin	X	X	445
1	25	3	Beta-Tubulin	Y	Y	445
1	26	3	Beta-Tubulin	Z	Z	445

Datasets used for modeling

There are 4 unique datasets used to build the models in this entry.

ID	Dataset type	Database name	Data access code
1	Experimental model	PDB	4ATU
2	Experimental model	PDB	6FNZ
3	Experimental model	PDB	6EVZ
4	Crosslinking-MS data	PRIDE	PXD033167

Representation

This entry has only one representation and includes 52 rigid bodies and 4 flexible units

Chain ID	Rigid bodies	Non-rigid segments
A	51-140, 177-251	141-176, 252-330
B	51-140, 177-251	141-176, 252-330
C	1-37, 47-435	-
D	1-37, 47-435	-
E	1-37, 47-435	-
F	1-37, 47-435	-
G	1-37, 47-435	-
H	1-37, 47-435	-
I	1-37, 47-435	-
J	1-37, 47-435	-
K	1-37, 47-435	-
L	1-37, 47-435	-
M	1-37, 47-435	-
N	1-37, 47-435	-
O	1-37, 38-429	-
P	1-37, 38-429	-
Q	1-37, 38-429	-
R	1-37, 38-429	-
S	1-37, 38-429	-
T	1-37, 38-429	-
U	1-37, 38-429	-
V	1-37, 38-429	-
W	1-37, 38-429	-

Chain ID	Rigid bodies	Non-rigid segments
X	1-37, 38-429	-
Y	1-37, 38-429	-
Z	1-37, 38-429	-

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	240000	False	True

There are 2 software packages reported in this entry.

ID	Software name	Software version	Software classification	Software location
1	IMP PMI module	2.14.0	integrative model building	https://integrativemodeling.org
2	Integrative Modeling Platform (IMP)	2.14.0	integrative model building	https://integrativemodeling.org

Data quality

Crosslinking-MS

Validation for this section is under development.

Model quality

For models with atomic structures, molprobity 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	25186.0

Fit of model to data used for modeling

Crosslinking-MS

Validation for this section is under development.

Fit of model to data used for validation

Validation for this section is under development.

Acknowledgements

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