wwPDB X-ray Structure Validation Summary Report (i)

Oct 2, 2023 – 01:19 AM EDT

PDB ID	:	6NJQ
Title	:	Structure of TBP-Hoogsteen containing DNA complex
Authors	:	Schumacher, M.A.; Stelling, A.
Deposited on	:	2019-01-04
Resolution	:	2.75 Å(reported)

This is a wwPDB X-ray Structure Validation Summary 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/XrayValidationReportHelp
with specific help available everywhere you see the (i) 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 (i)) were used in the production of this report:

MolProbity	:	FAILED
Xtriage (Phenix)	:	1.13
EDS	:	FAILED
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.35.1

1 Overall quality at a glance (i)

The following experimental techniques were used to determine the structure:
X-RAY DIFFRACTION

The reported resolution of this entry is 2.75 Å.

There are no overall percentile quality scores available for this entry.

MolProbity and EDS failed to run properly - the sequence quality summary graphics cannot be shown.

2 Entry composition (i)

There are 4 unique types of molecules in this entry. The entry contains 4112 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, the ZeroOcc column contains the number of atoms modelled with zero occupancy, the AltConf column contains the number of residues with at least one atom in alternate conformation and the Trace column contains the number of residues modelled with at most 2 atoms.

- Molecule 1 is a protein called TATA-box-binding protein 1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	B	187	Total	C	N	O	S	0	0	0
			1472	959	250	255	8			
1	A	187	Total	C	N	O	S	0	0	0
			1470	959	248	255	8			

There are 40 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
B	-19	MET	-	initiating methionine	UNP P28147
B	-18	GLY	-	expression tag	UNP P28147
B	-17	SER	-	expression tag	UNP P28147
B	-16	SER	-	expression tag	UNP P28147
B	-15	HIS	-	expression tag	UNP P28147
B	-14	HIS	-	expression tag	UNP P28147
B	-13	HIS	-	expression tag	UNP P28147
B	-12	HIS	-	expression tag	UNP P28147
B	-11	HIS	-	expression tag	UNP P28147
B	-10	HIS	-	expression tag	UNP P28147
B	-9	SER	-	expression tag	UNP P28147
B	-8	SER	-	expression tag	UNP P28147
B	-7	GLY	-	expression tag	UNP P28147
B	-6	LEU	-	expression tag	UNP P28147
B	-5	VAL	-	expression tag	UNP P28147
B	-4	PRO	-	expression tag	UNP P28147
B	-3	ARG	-	expression tag	UNP P28147
B	-2	GLY	-	expression tag	UNP P28147
B	-1	SER	-	expression tag	UNP P28147
B	0	HIS	-	expression tag	UNP P28147
A	-19	MET	-	initiating methionine	UNP P28147
A	-18	GLY	-	expression tag	UNP P28147
A	-17	SER	-	expression tag	UNP P28147
A	-16	SER	-	expression tag	UNP P28147
A	-15	HIS	-	expression tag	UNP P28147

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Chain	Residue	Modelled	Actual	Comment	Reference
A	-14	HIS	-	expression tag	UNP P28147
A	-13	HIS	-	expression tag	UNP P28147
A	-12	HIS	-	expression tag	UNP P28147
A	-11	HIS	-	expression tag	UNP P28147
A	-10	HIS	-	expression tag	UNP P28147
A	-9	SER	-	expression tag	UNP P28147
A	-8	SER	-	expression tag	UNP P28147
A	-7	GLY	-	expression tag	UNP P28147
A	-6	LEU	-	expression tag	UNP P28147
A	-5	VAL	-	expression tag	UNP P28147
A	-4	PRO	-	expression tag	UNP P28147
A	-3	ARG	-	expression tag	UNP P28147
A	-2	GLY	-	expression tag	UNP P28147
A	-1	SER	-	expression tag	UNP P28147
A	0	HIS	-	expression tag	UNP P28147

- Molecule 2 is a DNA chain called DNA (5'-D(*GP*CP*TP*AP*TP*AP*AP*AP*CP*GP*GP*GP*CP*A)-3').

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	E	14	Total	C	N	O	P	0	0	0
			287	137	58	79	13			
2	C	14	Total	C	N	O	P	0	0	0
			287	137	58	79	13			

- Molecule 3 is a DNA chain called DNA (5'-D(*TP*GP*CP*CP*CP*GP*TP*TP*TP*AP*TP*AP*GP*C)-3').

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	F	14	Total	C	N	O	P	0	0	0
			281	136	47	85	13			
3	D	14	Total	C	N	O	P	0	0	0
			281	136	47	85	13			

- Molecule 4 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	B	7	Total	O	0	0
			7	7		
4	E	2	Total	O	0	0
			2	2		

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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	F	3	Total O 3 3	0	0
4	A	13	Total O 13 13	0	0
4	C	3	Total O 3 3	0	0
4	D	6	Total O 6 6	0	0

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

3 Data and refinement statistics (i)

EDS failed to run properly - this section is therefore incomplete.

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α, β, γ	41.30Å 57.97Å 149.75Å 90.00° 96.50° 90.00°	Depositor
Resolution (Å)	148.79 – 2.75	Depositor
% Data completeness (in resolution range)	97.1 (148.79-2.75)	Depositor
R_{merge}	(Not available)	Depositor
R_{sym}	0.16	Depositor
$< I/\sigma(I) >$ [1]	1.98 (at 2.73Å)	Xtriage
Refinement program	PHENIX 1.12_2829	Depositor
R, R_{free}	0.230 , 0.278	Depositor
Wilson B-factor (Å^2)	50.6	Xtriage
Anisotropy	0.566	Xtriage
L-test for twinning[2]	$< \|L\| > = 0.47$, $< L^2 > = 0.30$	Xtriage
Estimated twinning fraction	0.124 for h,-k,-h-l	Xtriage
Total number of atoms	4112	wwPDB-VP
Average B, all atoms (Å^2)	52.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 13.62% of the height of the origin peak. No significant pseudotranslation is detected.*

[1] Intensities estimated from amplitudes.

[2] Theoretical values of $< |L| >$, $< L^2 >$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

4 Model quality

4.1 Standard geometry

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

4.2 Too-close contacts

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

4.3 Torsion angles

4.3.1 Protein backbone

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

4.3.2 Protein sidechains

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

4.3.3 RNA

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

4.4 Non-standard residues in protein, DNA, RNA chains

There are no non-standard protein/DNA/RNA residues in this entry.

4.5 Carbohydrates

There are no monosaccharides in this entry.

4.6 Ligand geometry

There are no ligands in this entry.

4.7 Other polymers

There are no such residues in this entry.

4.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

5 Fit of model and data

5.1 Protein, DNA and RNA chains

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

5.2 Non-standard residues in protein, DNA, RNA chains

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

5.3 Carbohydrates

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

5.4 Ligands

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

5.5 Other polymers

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