



# Full wwPDB NMR Structure Validation Report ⓘ

May 28, 2020 – 07:09 pm BST

PDB ID : 1ANP  
Title : SOLUTION CONFORMATION OF AN ATRIAL NATRIURETIC PEPTIDE  
VARIANT SELECTIVE FOR THE TYPE-A RECEPTOR  
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Deposited on : 1994-04-06

This is a Full wwPDB NMR Structure Validation Report for a publicly released PDB entry.

We welcome your comments at [validation@mail.wwpdb.org](mailto:validation@mail.wwpdb.org)

A user guide is available at

<https://www.wwpdb.org/validation/2017/NMRValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

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The following versions of software and data (see [references ⓘ](#)) were used in the production of this report:

Cyrange : Kirchner and Güntert (2011)  
NmrClust : Kelley et al. (1996)  
MolProbity : 4.02b-467  
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)  
RCI : v\_1n\_11\_5\_13\_A (Berjanski et al., 2005)  
PANAV : Wang et al. (2010)  
ShiftChecker : 2.11  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : 2.11



## 2 Ensemble composition and analysis

This entry contains 11 models.

Cyrange was unable to find well-defined residues.

Error message: No core atoms could be determined.

NmrClust was unable to cluster the ensemble.

Error message: Wrapper check: not enough residues in core to run NmrClust

### 3 Entry composition

There is only 1 type of molecule in this entry. The entry contains 28 atoms, of which 0 are hydrogens and 0 are deuteriums.

- Molecule 1 is a protein called ATRIAL NATRIURETIC PEPTIDE.

Mol	Chain	Residues	Atoms	Trace
1	A	28	Total C 28 28	28

There are 6 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	3	ASP	ARG	CONFLICT	UNP P01160
A	9	THR	GLY	CONFLICT	UNP P01160
A	11	SER	ARG	CONFLICT	UNP P01160
A	12	LEU	MET	CONFLICT	UNP P01160
A	14	SER	ARG	CONFLICT	UNP P01160
A	16	ARG	GLY	CONFLICT	UNP P01160

## 4 Residue-property plots

### 4.1 Average score per residue in the NMR ensemble

These plots are provided for all protein, RNA and DNA chains in the entry. The first graphic is the same as shown in the summary in section 1 of this report. The second graphic shows the sequence where residues are colour-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. Stretches of 2 or more consecutive residues without any outliers are shown as green connectors. Residues which are classified as ill-defined in the NMR ensemble, are shown in cyan with an underline colour-coded according to the previous scheme. Residues which were present in the experimental sample, but not modelled in the final structure are shown in grey.

- Molecule 1: ATRIAL NATRIURETIC PEPTIDE

Chain A:  100%

There are no outlier residues in this chain.

### 4.2 Scores per residue for each member of the ensemble

Colouring as in section 4.1 above.

#### 4.2.1 Score per residue for model 1

- Molecule 1: ATRIAL NATRIURETIC PEPTIDE

Chain A:  100%

There are no outlier residues in this chain.

#### 4.2.2 Score per residue for model 2

- Molecule 1: ATRIAL NATRIURETIC PEPTIDE

Chain A:  100%

There are no outlier residues in this chain.

#### 4.2.3 Score per residue for model 3

- Molecule 1: ATRIAL NATRIURETIC PEPTIDE

Chain A:  100%

There are no outlier residues in this chain.

#### 4.2.4 Score per residue for model 4

- Molecule 1: ATRIAL NATRIURETIC PEPTIDE

Chain A:  100%

There are no outlier residues in this chain.

#### 4.2.5 Score per residue for model 5

- Molecule 1: ATRIAL NATRIURETIC PEPTIDE

Chain A:  100%

There are no outlier residues in this chain.

#### 4.2.6 Score per residue for model 6

- Molecule 1: ATRIAL NATRIURETIC PEPTIDE

Chain A:  100%

There are no outlier residues in this chain.

#### 4.2.7 Score per residue for model 7

- Molecule 1: ATRIAL NATRIURETIC PEPTIDE

Chain A:  100%

There are no outlier residues in this chain.

#### 4.2.8 Score per residue for model 8

- Molecule 1: ATRIAL NATRIURETIC PEPTIDE

Chain A:  100%

There are no outlier residues in this chain.

#### 4.2.9 Score per residue for model 9

- Molecule 1: ATRIAL NATRIURETIC PEPTIDE

Chain A:  100%

There are no outlier residues in this chain.

#### 4.2.10 Score per residue for model 10

- Molecule 1: ATRIAL NATRIURETIC PEPTIDE

Chain A:  100%

There are no outlier residues in this chain.

#### 4.2.11 Score per residue for model 11

- Molecule 1: ATRIAL NATRIURETIC PEPTIDE

Chain A:  100%

There are no outlier residues in this chain.

## 5 Refinement protocol and experimental data overview

Of the ? calculated structures, 11 were deposited, based on the following criterion: ?.

The authors did not provide any information on software used for structure solution, optimization or refinement.

No chemical shift data was provided. No validations of the models with respect to experimental NMR restraints is performed at this time.



## 6 Model quality [i](#)

### 6.1 Standard geometry [i](#)

There are no covalent bond-length or bond-angle outliers.

There are no bond-length outliers.

There are no bond-angle outliers.

There are no chirality outliers.

There are no planarity outliers.

### 6.2 Too-close contacts [i](#)

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in each chain respectively. The H(added) column lists the number of hydrogen atoms added and optimized by MolProbity. The Clashes column lists the number of clashes averaged over the ensemble.

Mol	Chain	Non-H	H(model)	H(added)	Clashes
All	All	308	0	0	-

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is -.

There are no clashes.

### 6.3 Torsion angles [i](#)

#### 6.3.1 Protein backbone [i](#)

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all PDB entries followed by that with respect to all NMR entries. The Analysed column shows the number of residues for which the backbone conformation was analysed and the total number of residues.

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
1	A	0	-	-	-	-
All	All	0	-	-	-	-

There are no Ramachandran outliers.

### 6.3.2 Protein sidechains [i](#)

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all PDB entries followed by that with respect to all NMR entries. The Analysed column shows the number of residues for which the sidechain conformation was analysed and the total number of residues.

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
1	A	0	-	-	-
All	All	0	-	-	-

There are no protein residues with a non-rotameric sidechain to report.

### 6.3.3 RNA [i](#)

There are no RNA molecules in this entry.

### 6.4 Non-standard residues in protein, DNA, RNA chains [i](#)

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

### 6.5 Carbohydrates [i](#)

There are no carbohydrates in this entry.

### 6.6 Ligand geometry [i](#)

There are no ligands in this entry.

### 6.7 Other polymers [i](#)

There are no such molecules in this entry.

### 6.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

## 7 Chemical shift validation

No chemical shift data were provided