Resource Summary Report

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Statistical Torsional Angles Potentials of NMR Refinement Database

RRID:SCR_008917
Type: Tool

Proper Citation

Statistical Torsional Angles Potentials of NMR Refinement Database (RRID:SCR_008917)

Resource Information

URL: http://psb.kobic.re.kr/STAP/refinement/

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Description: STAP refinement of NMR Database is based the Statistical Torsion Angles Potentials to refine the NMR structure. It stored original solution NMR structures from the Protein Data Banks and our refined structures. Currently we carried out 2,405 refined NMR structure (until Sept 20, 2011). According to several studies, some nuclear magnetic resonance (NMR) structures are of lower quality, less reliable and less suitable for structural analysis than high-resolution X-ray crystallographic structures. STAP of NMR Refinement Database is a public database of 2405 refined NMR solution structures from the Protein Data Bank (PDB). A simulated annealing protocol was employed to obtain refined structures with target potentials, including the newly developed STAP. The refined database was extensively analyzed using various quality indicators from several assessment programs to determine the nuclear Overhauser effect (NOE) completeness, Ramachandran appearance, (1)-(2) rotamer normality, various parameters for protein stability and other indicators. Most quality indicators are improved in our protocol mainly due to the inclusion of the newly developed knowledge-based potentials. This database can be used by the NMR structure community for further development of research and validation tools, structure-related studies and modelling in many fields of research.

Abbreviations: STAP of NMR Refinement Database

Synonyms: STAP refinement of NMR DB, STAP - NMR Refinement Database, STAP refinement of NMR Database

Resource Type: image, database, data or information resource

Defining Citation: PMID:22102572

Keywords: nmr structure, statistical, torsion angle, potential, nuclear magnetic resonance, structure, ramachandran

Funding: Korean Ministry of Education Science and Technology 20110002321; Korean Ministry of Education Science and Technology 20110019747

Availability: Public

Resource Name: Statistical Torsional Angles Potentials of NMR Refinement Database

Resource ID: SCR_008917

Alternate IDs: nlx_151605

Record Creation Time: 20220129T080250+0000

Record Last Update: 20250517T055915+0000

Ratings and Alerts

No rating or validation information has been found for Statistical Torsional Angles Potentials of NMR Refinement Database.

No alerts have been found for Statistical Torsional Angles Potentials of NMR Refinement Database.

Data and Source Information

Source: SciCrunch Registry

Usage and Citation Metrics

We found 3 mentions in open access literature.

Listed below are recent publications. The full list is available at FDI Lab - SciCrunch.org.

Doreleijers JF, et al. (2012) NRG-CING: integrated validation reports of remediated experimental biomolecular NMR data and coordinates in wwPDB. Nucleic acids research, 40(Database issue), D519.

Yang JS, et al. (2012) STAP Refinement of the NMR database: a database of 2405 refined solution NMR structures. Nucleic acids research, 40(Database issue), D525.

Galperin MY, et al. (2012) The 2012 Nucleic Acids Research Database Issue and the online Molecular Biology Database Collection. Nucleic acids research, 40(Database issue), D1.