

Resource Summary Report

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CARP

RRID:SCR_009021

Type: Tool

Proper Citation

CARP (RRID:SCR_009021)

Resource Information

URL: <http://www.glycosciences.de/tools/carp/>

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Description: Service that generates Ramachandran-like plots of carbohydrate linkage torsions in pdb-files. The Ramachandran Plot, where backbone torsion angles are plotted against each other, is a frequently used tool to evaluate the quality of a protein 3D structure. For carbohydrate structures, linkage torsions can be evaluated in a similar way. Preferred Phi/Psi values of the torsion angles of glycosidic bonds depend strongly on the types of monosaccharides involved in the linkage, the kind of linkage (1-3, 1-4, etc) as well as the degree of branching of the structure. CARP analyses carbohydrate data given in PDB files using the pdb2linucs algorithm. For each different linkage type a separate plot is generated. The user can choose between two sources for plot background information for comparison: data obtained from PDB provided by GlyTorsion or from GlycoMapsDB. GlycoMapsDB provides calculated conformational maps, which show energetically preferred regions for a specific linkage, while PDB data are based on experimentally solved structures. For seldom occurring linkages, however, PDB data are often rare, so maybe not sufficient background information for comparison will be available from this source.

Abbreviations: carp

Synonyms: CARbohydrate Ramachandran Plot, carp: CARbohydrate Ramachandran Plot

Resource Type: analysis service resource, data analysis service, service resource, production service resource

Defining Citation: [PMID:15608187](#)

Keywords: carbohydrate, 3d structure, protein, plot

Funding: DFG

Availability: Acknowledgement requested

Resource Name: CARP

Resource ID: SCR_009021

Alternate IDs: nlx_152878

Record Creation Time: 20220129T080250+0000

Record Last Update: 20250409T060807+0000

Ratings and Alerts

No rating or validation information has been found for CARP.

No alerts have been found for CARP.

Data and Source Information

Source: [SciCrunch Registry](#)

Usage and Citation Metrics

We found 64 mentions in open access literature.

Listed below are recent publications. The full list is available at [NIF](#).

Boschini L, et al. (2024) Computer-Guided Surgery Can Avoid Prophylactic Endodontic Treatment in Autologous Tooth Transplantation: A 5-Year Follow-Up Case Report. *Dentistry journal*, 12(5).

Willems E, et al. (2024) Strain-controlled electrophysiological wave propagation alters in silico scar-based substrate for ventricular tachycardia. *Frontiers in physiology*, 15, 1330157.

Rios-Martinez C, et al. (2023) Deep self-supervised learning for biosynthetic gene cluster detection and product classification. *PLoS computational biology*, 19(5), e1011162.

Low G, et al. (2023) Suitability of the Attitudes to Aging Questionnaire Short Form for Use among Adults in Their 50s: A Cross-Sectional e-Survey Study. *International journal of environmental research and public health*, 20(22).

Warmuth VM, et al. (2022) Accumulation and ineffective silencing of transposable elements on an avian W Chromosome. *Genome research*, 32(4), 671.

O'Hara RP, et al. (2022) Personalized computational heart models with T1-mapped fibrotic remodeling predict sudden death risk in patients with hypertrophic cardiomyopathy. *eLife*, 11.

Buurstede JC, et al. (2022) Hippocampal glucocorticoid target genes associated with enhancement of memory consolidation. *The European journal of neuroscience*, 55(9-10), 2666.

Rodero C, et al. (2021) Linking statistical shape models and simulated function in the healthy adult human heart. *PLoS computational biology*, 17(4), e1008851.

Zhou T, et al. (2021) Molecular Characterisation of Titin N2A and Its Binding of CARP Reveals a Titin/Actin Cross-linking Mechanism. *Journal of molecular biology*, 433(9), 166901.

Shade JK, et al. (2021) Predicting risk of sudden cardiac death in patients with cardiac sarcoidosis using multimodality imaging and personalized heart modeling in a multivariable classifier. *Science advances*, 7(31).

Nyirenda H, et al. (2021) Conservation agriculture-related practices contribute to maize (*Zea mays* L.) yield and soil improvement in Central Malawi. *Heliyon*, 7(3), e06636.

Biswal A, et al. (2021) An Integrated biomarker approach for explaining the potency of exogenous glucose on transportation induced stress in *Labeo rohita* fingerlings. *Scientific reports*, 11(1), 5713.

Gemmell NJ, et al. (2020) The tuatara genome reveals ancient features of amniote evolution. *Nature*, 584(7821), 403.

Seabright GE, et al. (2020) Networks of HIV-1 Envelope Glycans Maintain Antibody Epitopes in the Face of Glycan Additions and Deletions. *Structure (London, England : 1993)*, 28(8), 897.

Lanzicher T, et al. (2020) Single-Molecule Force Spectroscopy on the N2A Element of Titin: Effects of Phosphorylation and CARP. *Frontiers in physiology*, 11, 173.

Balaban G, et al. (2020) 3D Electrophysiological Modeling of Interstitial Fibrosis Networks and Their Role in Ventricular Arrhythmias in Non-Ischemic Cardiomyopathy. *IEEE transactions on bio-medical engineering*, 67(11), 3125.

Sanchez-Alonso JL, et al. (2020) Nanoscale regulation of L-type calcium channels differentiates between ischemic and dilated cardiomyopathies. *EBioMedicine*, 57, 102845.

Galbraith JD, et al. (2020) New Environment, New Invaders-Repeated Horizontal Transfer of LINEs to Sea Snakes. *Genome biology and evolution*, 12(12), 2370.

Molina M, et al. (2020) A specific oligosaccharide-binding site in the alternansucrase catalytic domain mediates alternan elongation. *The Journal of biological chemistry*, 295(28), 9474.

Balaban G, et al. (2019) Scar shape analysis and simulated electrical instabilities in a non-ischemic dilated cardiomyopathy patient cohort. *PLoS computational biology*, 15(10), e1007421.