Resource Summary Report

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glycomedb

RRID:SCR_005717
Type: Tool

Proper Citation

glycomedb (RRID:SCR_005717)

Resource Information

URL: http://www.glycome-db.org/

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Description: GlycomeDB is a database of all known carbohydrate structures. This was achieved by crosslinking several other databases of carbohydrate structures by using the GlycoCT XML language specification. We have analyzed all of the existing public databases and defined a sequence format based on XML (GlycoCT) capable of storing all structural information of carbohydrate sequences. We have implemented a library of parsers for the interpretation of the different encoding schemes for carbohydrates. With this library we have translated the carbohydrate sequences of all freely available databases (CFG , KEGG, GLYCOSCIENCES.de, BCSDB and Carbbank) to GlycoCT, and created a new database (GlycomeDB) containing all structures and annotations. During the process of data integration we found multiple inconsistencies in the existing databases which were corrected in collaboration with the responsible curators. With the new database, GlycomeDB, it is possible to get an overview of all carbohydrate structures in the different databases and to crosslink common structures in the different databases. Scientists are now able to search for a particular structure in the meta database and get information about the occurrence of this structure in the five carbohydrate structure databases.

Abbreviations: GlycomeDB

Synonyms: GlycomeDB - A carbohydrate structure metadatabase

Resource Type: database, data or information resource

Defining Citation: PMID:21045056, PMID:19759275, PMID:18803830

Keywords: carbohydrate structure, carbohydrate, bio.tools

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Resource Name: glycomedb

Resource ID: SCR_005717

Alternate IDs: nlx_149174, biotools:glycomedb

Alternate URLs: https://bio.tools/glycomedb

Record Creation Time: 20220129T080232+0000

Record Last Update: 20250412T054958+0000

Ratings and Alerts

No rating or validation information has been found for glycomedb.

No alerts have been found for glycomedb.

Data and Source Information

Source: SciCrunch Registry

Usage and Citation Metrics

We found 24 mentions in open access literature.

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

Trbojevi?-Akma?i? I, et al. (2022) High-Throughput Glycomic Methods. Chemical reviews, 122(20), 15865.

Moran AB, et al. (2022) Sialic Acid Derivatization of Fluorescently Labeled N-Glycans Allows Linkage Differentiation by Reversed-Phase Liquid Chromatography-Fluorescence Detection-Mass Spectrometry. Analytical chemistry, 94(18), 6639.

Wang Y, et al. (2021) Impact of Expressing Cells on Glycosylation and Glycan of the SARS-CoV-2 Spike Glycoprotein. ACS omega, 6(24), 15988.

Š?upáková K, et al. (2021) Clinical importance of high-mannose, fucosylated, and complex N-glycans in breast cancer metastasis. JCI insight, 6(24).

Hasan MM, et al. (2021) Mass Spectrometry Imaging for Glycome in the Brain. Frontiers in neuroanatomy, 15, 711955.

Ziburová J, et al. (2021) A novel homozygous mutation in the human ALG12 gene results in an aberrant profile of oligomannose N-glycans in patient's serum. American journal of medical genetics. Part A, 185(11), 3494.

Demus D, et al. (2021) Interlaboratory evaluation of plasma N-glycan antennary fucosylation as a clinical biomarker for HNF1A-MODY using liquid chromatography methods. Glycoconjugate journal, 38(3), 375.

Shu Q, et al. (2020) Large-scale Identification of N-linked Intact Glycopeptides in Human Serum using HILIC Enrichment and Spectral Library Search. Molecular & cellular proteomics : MCP, 19(4), 672.

Hu Y, et al. (2020) Integrated Proteomic and Glycoproteomic Characterization of Human High-Grade Serous Ovarian Carcinoma. Cell reports, 33(3), 108276.

Pan J, et al. (2020) Glycoproteomics-based signatures for tumor subtyping and clinical outcome prediction of high-grade serous ovarian cancer. Nature communications, 11(1), 6139.

Zhang S, et al. (2019) N-glycopeptide Signatures of IgA2 in Serum from Patients with Hepatitis B Virus-related Liver Diseases. Molecular & cellular proteomics : MCP, 18(11), 2262.

Pang Y, et al. (2019) Crystal structure of a cytocidal protein from lamprey and its mechanism of action in the selective killing of cancer cells. Cell communication and signaling : CCS, 17(1), 54.

Amon R, et al. (2018) A combined computational-experimental approach to define the structural origin of antibody recognition of sialyl-Tn, a tumor-associated carbohydrate antigen. Scientific reports, 8(1), 10786.

Liu MQ, et al. (2017) pGlyco 2.0 enables precision N-glycoproteomics with comprehensive quality control and one-step mass spectrometry for intact glycopeptide identification. Nature communications, 8(1), 438.

Yang S, et al. (2017) Simultaneous analyses of N-linked and O-linked glycans of ovarian cancer cells using solid-phase chemoenzymatic method. Clinical proteomics, 14, 3.

Zeng WF, et al. (2016) pGlyco: a pipeline for the identification of intact N-glycopeptides by using HCD- and CID-MS/MS and MS3. Scientific reports, 6, 25102.

Hinneburg H, et al. (2016) The Art of Destruction: Optimizing Collision Energies in Quadrupole-Time of Flight (Q-TOF) Instruments for Glycopeptide-Based Glycoproteomics. Journal of the American Society for Mass Spectrometry, 27(3), 507.

Hou W, et al. (2016) A systematic framework to derive N-glycan biosynthesis process and the automated construction of glycosylation networks. BMC bioinformatics, 17 Suppl 7(Suppl 7), 240.

Harvey DJ, et al. (2015) Analysis of carbohydrates and glycoconjugates by matrix-assisted laser desorption/ionization mass spectrometry: an update for 2009-2010. Mass spectrometry reviews, 34(3), 268.

Alocci D, et al. (2015) Property Graph vs RDF Triple Store: A Comparison on Glycan Substructure Search. PloS one, 10(12), e0144578.