

Resource Summary Report

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Cybase

RRID:SCR_012925

Type: Tool

Proper Citation

Cybase (RRID:SCR_012925)

Resource Information

URL: <http://www.cybase.org.au/>

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Description: Cybase is dedicated to the study of a fascinating new class of proteins that possess a cyclic backbone in which the N and C termini have been joined with a conventional amide bond. These recently characterized molecules have now been found in organisms from all kingdoms of life and given the current rate of discovery the number of sequences could soon number in the hundreds. Research in our lab is aimed at further characterizing cyclic proteins and adapting them for commercial and medicinal use. In particular we work on a class of cyclic protein named the cyclotides. These proteins are found in the plants of the Rubiaceae and Violaceae and our specific goals include: determining the role that cyclotides play in plants, discovering the mechanism of action of the wide range of biological activities displayed by the cyclotides (including anti-HIV, anti-bacterial and insecticidal activity), characterising the genetics of the cyclotides and further discovery of novel cyclotides.

Synonyms: Cybase

Resource Type: database, data or information resource

Keywords: cyclic protein

Resource Name: Cybase

Resource ID: SCR_012925

Alternate IDs: nif-0000-02710

Old URLs: <http://research1t.imb.uq.edu.au/cybase/>

Record Creation Time: 20220129T080313+0000

Record Last Update: 20260725T191204+0000

Ratings and Alerts

No rating or validation information has been found for Cybase.

No alerts have been found for Cybase.

Data and Source Information

Source: [SciCrunch Registry](#)

Usage and Citation Metrics

We found 33 mentions in open access literature.

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

Tomašević N, et al. (2024) Discovery and development of macrocyclic peptide modulators of the cannabinoid 2 receptor. *The Journal of biological chemistry*, 300(6), 107330.

Taghizadeh MS, et al. (2024) Unveiling the insecticidal efficiency of *Viola ignobilis* against *Macrosiphum rosae* and *Agonoscyta pistaciae*: From chemical composition to cytotoxicity analysis. *Heliyon*, 10(23), e40636.

Badaczewska-Dawid A, et al. (2024) Structure prediction of linear and cyclic peptides using CABS-flex. *Briefings in bioinformatics*, 25(2).

Castillo-Mendieta K, et al. (2024) Peptide hemolytic activity analysis using visual data mining of similarity-based complex networks. *NPJ systems biology and applications*, 10(1), 115.

Sychta K, et al. (2024) The involvement of cyclotides in the heavy metal tolerance of *Viola* spp. *Scientific reports*, 14(1), 19306.

Lian Y, et al. (2024) Characterization and evaluation of cytotoxic and antimicrobial activities of cyclotides from *Viola japonica*. *Scientific reports*, 14(1), 9733.

Hussain M, et al. (2024) Computational modeling of cyclotides as antimicrobial agents against *Neisseria gonorrhoeae* PorB porin protein: integration of docking, immune, and molecular dynamics simulations. *Frontiers in chemistry*, 12, 1493165.

Karami Y, et al. (2023) Exploring a Structural Data Mining Approach to Design Linkers for Head-to-Tail Peptide Cyclization. *Journal of chemical information and modeling*, 63(20), 6436.

Rajendran S, et al. (2023) Screening for Cyclotides in Sri Lankan Medicinal Plants: Discovery, Characterization, and Bioactivity Screening of Cyclotides from *Geophila repens*. *Journal of natural products*, 86(1), 52.

Ramazi S, et al. (2022) A review on antimicrobial peptides databases and the computational tools. *Database : the journal of biological databases and curation*, 2022.

- Du Q, et al. (2022) Mutagenesis of bracelet cyclotide hyen D reveals functionally and structurally critical residues for membrane binding and cytotoxicity. *The Journal of biological chemistry*, 298(4), 101822.
- Huang YH, et al. (2022) Protocols for measuring the stability and cytotoxicity of cyclotides. *Methods in enzymology*, 663, 19.
- Pinto MEF, et al. (2021) Cyclotides from Brazilian *Palicourea sessilis* and Their Effects on Human Lymphocytes. *Journal of natural products*, 84(1), 81.
- Manniello MD, et al. (2021) Insect antimicrobial peptides: potential weapons to counteract the antibiotic resistance. *Cellular and molecular life sciences : CMLS*, 78(9), 4259.
- Slazak B, et al. (2021) Cyclotide host-defense tailored for species and environments in violets from the Canary Islands. *Scientific reports*, 11(1), 12452.
- Buabeid MA, et al. (2020) In Silico Prediction of the Mode of Action of *Viola odorata* in Diabetes. *BioMed research international*, 2020, 2768403.
- Du J, et al. (2020) A bifunctional asparaginyl endopeptidase efficiently catalyzes both cleavage and cyclization of cyclic trypsin inhibitors. *Nature communications*, 11(1), 1575.
- Du Q, et al. (2020) Discovery and mechanistic studies of cytotoxic cyclotides from the medicinal herb *Hybanthus enneaspermus*. *The Journal of biological chemistry*, 295(32), 10911.
- Gerlach SL, et al. (2019) The Membrane-Active Phytopeptide Cycloviolacin O2 Simultaneously Targets HIV-1-infected Cells and Infectious Viral Particles to Potentiate the Efficacy of Antiretroviral Drugs. *Medicines (Basel, Switzerland)*, 6(1).
- Sternberger AL, et al. (2019) Transcriptomics Identifies Modules of Differentially Expressed Genes and Novel Cyclotides in *Viola pubescens*. *Frontiers in plant science*, 10, 156.