Resource Summary Report

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BitterDB

RRID:SCR_006977
Type: Tool

Proper Citation

BitterDB (RRID:SCR_006977)

Resource Information

URL: http://bitterdb.agri.huji.ac.il/bitterdb/dbbitter.php

Proper Citation: BitterDB (RRID:SCR_006977)

Description: BitterDB is a free and searchable database of bitter compounds. It currently holds over 550 bitter compounds obtained from the literature and from Merck index and their associated 25 human bitter taste receptors (hT2Rs). BitterDB provides several ways to investigate the bitter world: search for bitter compounds by different criteria, search for bitter molecules with structure similar to a query compound, blast bitter receptors and more. New! 2D plots of bitter receptors are available in the receptors pages. The alignment contains the sequences of the 25 human bitter taste receptors. The alignment shows the secondary structure for each receptor as predicted by TOPCONS. In each trans-membrane helix X, the most conserved residue (X.50 in Ballesteros-Weinstein numbering) is indicated. The alignment was generated using ClustalW2.

Abbreviations: BitterDB

Resource Type: analysis service resource, service resource, production service resource, database, data or information resource, data analysis service

Defining Citation: PMID:21940398

Keywords: bitter compound, receptor, compound, molecule, bitter, taste, blast, alignment

Funding: Niedersachsen-Israel Research cooperation fund ;
BSF 2007296

Availability: Free

Resource Name: BitterDB

Resource ID: SCR_006977

Alternate IDs: nlx_149409

Record Creation Time: 20220129T080239+0000

Record Last Update: 20250402T060617+0000

Ratings and Alerts

No rating or validation information has been found for BitterDB.

No alerts have been found for BitterDB.

Data and Source Information

Source: SciCrunch Registry

Usage and Citation Metrics

We found 14 mentions in open access literature.

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

Ziaikin E, et al. (2025) BitterDB: 2024 update on bitter ligands and taste receptors. Nucleic acids research, 53(D1), D1645.

Shimizu T, et al. (2024) Verification of the interaction between human bitter taste receptor T2R46 and polyphenols; Computational chemistry approach. Current research in food science, 9, 100914.

Szczepaniak O, et al. (2024) Docking analysis of phenolic acid and flavonoids with selected TAS2R receptors and in vitro experiment. Scientific reports, 14(1), 15983.

Brown E, et al. (2024) Inhibitors of the small membrane (M) protein viroporin prevent Zika virus infection. eLife, 13.

Margulis E, et al. (2023) Bitter Odorants and Odorous Bitters: Toxicity and Human TAS2R Targets. Journal of agricultural and food chemistry, 71(23), 9051.

Fritz F, et al. (2021) VirtualTaste: a web server for the prediction of organoleptic properties of chemical compounds. Nucleic acids research, 49(W1), W679.

Margulis E, et al. (2021) Intense bitterness of molecules: Machine learning for expediting

drug discovery. Computational and structural biotechnology journal, 19, 568.

Zheng S, et al. (2019) e-Sweet: A Machine-Learning Based Platform for the Prediction of Sweetener and Its Relative Sweetness. Frontiers in chemistry, 7, 35.

Dagan-Wiener A, et al. (2019) BitterDB: taste ligands and receptors database in 2019. Nucleic acids research, 47(D1), D1179.

Banerjee P, et al. (2018) BitterSweetForest: A Random Forest Based Binary Classifier to Predict Bitterness and Sweetness of Chemical Compounds. Frontiers in chemistry, 6, 93.

Sundararajan T, et al. (2018) Functional analysis of schizophrenia genes using GeneAnalytics program and integrated databases. Gene, 641, 25.

Dagan-Wiener A, et al. (2017) Bitter or not? BitterPredict, a tool for predicting taste from chemical structure. Scientific reports, 7(1), 12074.

Di Pizio A, et al. (2017) Ligand binding modes from low resolution GPCR models and mutagenesis: chicken bitter taste receptor as a test-case. Scientific reports, 7(1), 8223.

Huang W, et al. (2016) BitterX: a tool for understanding bitter taste in humans. Scientific reports, 6, 23450.