Resource Summary Report

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UM-BBD

RRID:SCR_005787
Type: Tool

Proper Citation

UM-BBD (RRID:SCR_005787)

Resource Information

URL: http://umbbd.msi.umn.edu/

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Description: THIS RESOURCE IS NO LONGER IN SERVICE, documented on August 27, 2014. Database containing information on microbial biocatalytic reactions and biodegradation pathways for primarily xenobiotic, chemical compounds. Its goal is to provide information on microbial enzyme-catalyzed reactions that are important for biotechnology. The reactions covered are studied for basic understanding of nature, biocatalysis leading to specialty chemical manufacture, and biodegradation of environmental pollutants. Individual reactions and metabolic pathways are presented with information on the starting and intermediate chemical compounds, the organisms that transform the compounds, the enzymes, and the genes. The present database has been successfully used to teach enzymology and use of biochemical Internet information resources to advanced undergraduate and graduate students, and is being expanded primarily with the help of such students. In addition to reactions and pathways, this database also contains Biochemical Periodic Tables and a Pathway Prediction System. * Search the UM-BBD for compound, enzyme, microorganism, pathway, or BT rule name; chemical formula; chemical structure; CAS Registry Number; or EC code. * Go to Pathways and Metapathways in the UM-BBD * Lists of 203 pathways; 1400 reactions; 1296 compounds; 916 enzymes; 510 microorganism entries; 245 biotransformation rules; 50 organic functional groups; 76 reactions of naphthalene 1,2-dioxygenase; 109 reactions of toluene dioxygenase; Graphical UM-BBD Overview; and Other Graphics (Metapathway and Pathway Maps and Reaction Mechanisms).

Abbreviations: UM-BBD, UM-BBD enzymeID, UM-BBD pathwayID, UM-BBD reactionID, UM-BBD ruleID

Synonyms: UM-BBD pathwayID, University of Minnesota Biocatalysis and Biodegradation

Database, UM-BBD reactionID, Biocatalysis/Biodegradation Database, University of Minnesota Biocatalysis/Biodegradation Database, UM-BBD ruleID, Univeristy of Minnesota Biocatalysis/Biodegradation Database, UM-BBD enzymeID

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

Defining Citation: PMID:19767608, PMID:16381924, PMID:12519997

Keywords: enzyme, biocatalysis, biodegredation, chemical, pathway, reaction, microorganism, image, chemical compound, gene, enzymology

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NSF 0543416;
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NSF 9630427

Availability: THIS RESOURCE IS NO LONGER IN SERVICE

Resource Name: UM-BBD

Resource ID: SCR_005787

Alternate IDs: nif-0000-03607

Record Creation Time: 20220129T080232+0000

Record Last Update: 20250517T055721+0000

Ratings and Alerts

No rating or validation information has been found for UM-BBD.

No alerts have been found for UM-BBD.

Data and Source Information

Source: SciCrunch Registry

Usage and Citation Metrics

We found 9 mentions in open access literature.

Listed below are recent publications. The full list is available at dkNET.

Medvecky M, et al. (2021) PepMANDIS: A Peptide Selection Tool for Designing Function-Based Targeted Proteomic Assays in Complex Microbial Systems. Frontiers in chemistry, 9, 722087.

Wongbunmak A, et al. (2020) BTEX biodegradation by Bacillus amyloliquefaciens subsp. plantarum W1 and its proposed BTEX biodegradation pathways. Scientific reports, 10(1), 17408.

Awasthi G, et al. (2018) In silico identification and construction of microbial gene clusters associated with biodegradation of xenobiotic compounds. Microbial pathogenesis, 114, 340.

Ningthoujam SS, et al. (2012) Challenges in developing medicinal plant databases for sharing ethnopharmacological knowledge. Journal of ethnopharmacology, 141(1), 9.

Park JM, et al. (2011) Genome-scale reconstruction and in silico analysis of the Ralstonia eutropha H16 for polyhydroxyalkanoate synthesis, lithoautotrophic growth, and 2-methyl citric acid production. BMC systems biology, 5, 101.

Govantes F, et al. (2009) Atrazine biodegradation in the lab and in the field: enzymatic activities and gene regulation. Microbial biotechnology, 2(2), 178.

Arora PK, et al. (2009) OxDBase: a database of oxygenases involved in biodegradation. BMC research notes, 2, 67.

Durot M, et al. (2009) Genome-scale models of bacterial metabolism: reconstruction and applications. FEMS microbiology reviews, 33(1), 164.

Gómez MJ, et al. (2007) The environmental fate of organic pollutants through the global microbial metabolism. Molecular systems biology, 3, 114.