

Resource Summary Report

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ProFunc

RRID:SCR_004450

Type: Tool

Proper Citation

ProFunc (RRID:SCR_004450)

Resource Information

URL: <http://www.ebi.ac.uk/thornton-srv/databases/profunc/index.html>

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Description: The ProFunc server had been developed to help identify the likely biochemical function of a protein from its three-dimensional structure. It uses both sequence- and structure-based methods including fold matching, residue conservation, surface cleft analysis, and functional 3D templates, to identify both the protein's likely active site and possible homologues in the PDB. Often, where one method fails to provide any functional insight another may be more helpful. You can submit your own structure, analyze an existing PDB entry, or retrieve the results of a previously submitted run. The files are usually stored for about 6 months before being deleted. However, they are stored on a partition that is not backed up; so, in principle, they could disappear at any time.

Abbreviations: ProFunc

Synonyms: ProFunc - prediction of protein function from 3D structure, ProFunc: Analysis of a protein's 3D structure to help identify its likely biochemical function

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

Defining Citation: [PMID:15980588](#), [PMID:16019027](#)

Keywords: gold standard

Funding: DOE contract W-31-109-Eng-38;
NIGMS GM62414;
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Resource Name: ProFunc

Resource ID: SCR_004450

Alternate IDs: nlx_44430

Record Creation Time: 20220129T080224+0000

Record Last Update: 20260808T190354+0000

Ratings and Alerts

No rating or validation information has been found for ProFunc.

No alerts have been found for ProFunc.

Data and Source Information

Source: [SciCrunch Registry](#)

Usage and Citation Metrics

We found 72 mentions in open access literature.

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

Khlifi H, et al. (2026) Structure-biological activity relationships in a zinc(ii) pyrazole halide complex [ZnCl₂(1-4BrPz)₂] via noncovalent interactions, molecular docking, and antimicrobial studies. RSC advances, 16(33), 30614.

Maso L, et al. (2025) Generation of actionable, cancer-specific neoantigens from KRAS(G12C) with adagrasib. Proceedings of the National Academy of Sciences of the United States of America, 122(31), e2509012122.

Saleem MZ, et al. (2025) In silico characterization, physiochemical analysis, and antifungal evaluation of the Zea mays PR-1 protein. Scientific reports, 15(1), 31523.

Sajjad M, et al. (2025) Genome-Wide Identification and Expression Profiling of Pyruvate Kinase Genes in Litchi Under Calcium-Magnesium Foliar Treatment. Plants (Basel, Switzerland), 14(17).

Blazie SM, et al. (2024) C. elegans LIN-66 mediates EIF-3/eIF3-dependent protein translation via a cold-shock domain. Life science alliance, 7(9).

Gorityala N, et al. (2024) Genome mining of Mycobacterium tuberculosis: targeting SufD as a novel drug candidate through in silico characterization and inhibitor screening. Frontiers in microbiology, 15, 1369645.

Maso L, et al. (2024) Molecular basis for antibody recognition of multiple drug-peptide/MHC complexes. Proceedings of the National Academy of Sciences of the United States of America, 121(22), e2319029121.

Marson NA, et al. (2024) In silico prediction of heme binding in proteins. The Journal of biological chemistry, 300(5), 107250.

Panrat T, et al. (2024) Structural modelling and preventive strategy targeting of WSSV hub proteins to combat viral infection in shrimp *Penaeus monodon*. PloS one, 19(7), e0307976.

Sundararaj R, et al. (2024) In silico approaches for the identification of potential allergens among hypothetical proteins from *Alternaria alternata* and its functional annotation. Scientific reports, 14(1), 6696.

Chaari M, et al. (2024) Betalains from *Opuntia stricta* peels: UPLC-MS/MS metabolites profiling, computational investigation, and potential applicability as a raw meat colorant. Heliyon, 10(21), e39784.

Ribeiro AJM, et al. (2023) Enzyme function and evolution through the lens of bioinformatics. The Biochemical journal, 480(22), 1845.

Ishwarlall TZ, et al. (2023) Multi-epitope vaccine candidates based on mycobacterial membrane protein large (MmpL) proteins against *Mycobacterium ulcerans*. Open biology, 13(11), 230330.

Ghanbari Moheb Seraj R, et al. (2022) Metabolomics analysis of milk thistle lipids to identify drought-tolerant genes. Scientific reports, 12(1), 12827.

Rajapaksha LGTG, et al. (2022) In silico detection and characterization of novel virulence proteins of the emerging poultry pathogen *Gallibacterium anatis*. Genomics & informatics, 20(4), e41.

Zhang J, et al. (2022) Structural and functional characterizations and heterogenous expression of the antimicrobial peptides, Hedefensins, from black soldier fly, *Hermetia illucens* (L.). Protein expression and purification, 192, 106032.

Ardestani H, et al. (2022) In silico and in vivo approaches to recombinant multi-epitope immunogen of GroEL provides efficient cross protection against *S. Typhimurium*, *S. flexneri*, and *S. dysenteriae*. Molecular immunology, 144, 96.

Khan K, et al. (2022) Integrated bioinformatics based subtractive genomics approach to decipher the therapeutic function of hypothetical proteins from *Salmonella typhi* XDR H-58 strain. Biotechnology letters, 44(2), 279.

Chakraborty T, et al. (2022) Sex Lethal Gene Manipulates Gonadal Development of Medaka, *Oryzias latipes*, through Estrogenic Interventions. International journal of molecular sciences, 23(24).

Zhuang J, et al. (2022) Crystal structure of the polyketide cyclase from *Mycobacterium tuberculosis*. Acta biochimica et biophysica Sinica, 54(4), 474.