Resource Summary Report

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BioCAT

RRID:SCR_001440 Type: Tool

Proper Citation

BioCAT (RRID:SCR_001440)

Resource Information

URL: http://www.bio.aps.anl.gov/

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Description: Biomedical technology research center and training resource for the study of the structure of partially ordered biological molecules, complexes of biomolecules and cellular structures under conditions similar to those present in living cells and tissues. The goal of research at BioCAT is to determine the detailed structure and mechanism of action of biological systems at the molecular level. The techniques used are X-ray fiber diffraction, X-ray solution scattering and X-ray micro-emission and micro-absorption spectroscopy, with an emphasis on time-resolved studies and the development of novel techniques.

Abbreviations: BioCAT

Synonyms: Biophysics Collaborative Access Team

Resource Type: training resource, biomedical technology research center

Keywords: biological system, structure, function, molecule, complex, cellular structure, cell, tissue, x-ray, fiber diffraction, solution scattering, micro-emission, micro-absorption spectroscopy, time-resolved, x-ray micro-imaging, macromolecule, structural biology technology center, photon, microprobe

Funding: NCRR U41RR008630

Resource Name: BioCAT

Resource ID: SCR_001440

Alternate IDs: nlx_152666

Record Creation Time: 20220129T080207+0000

Record Last Update: 20250519T205045+0000

Ratings and Alerts

No rating or validation information has been found for BioCAT.

No alerts have been found for BioCAT.

Data and Source Information

Source: <u>SciCrunch Registry</u>

Usage and Citation Metrics

We found 825 mentions in open access literature.

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

Kunz L, et al. (2025) Avirulence depletion assay: Combining R gene-mediated selection with bulk sequencing for rapid avirulence gene identification in wheat powdery mildew. PLoS pathogens, 21(1), e1012799.

Van der Pijl RJ, et al. (2025) Increased cardiac myosin super-relaxation as an energy saving mechanism in hibernating grizzly bears. Molecular metabolism, 92, 102084.

Graça AP, et al. (2025) MftG is crucial for ethanol metabolism of mycobacteria by linking mycofactocin oxidation to respiration. eLife, 13.

Monsen RC, et al. (2025) Early events in G-quadruplex folding captured by time-resolved small-angle X-ray scattering. Nucleic acids research, 53(3).

van Driel MEC, et al. (2025) Sensory alterations and immunological changes during the chronification of postsurgical pain: a study protocol for a prospective observational cohort study. BMJ open, 15(1), e094249.

Zhang L, et al. (2025) Molecular hydrogen reduces dermatitis-induced itch, diabetic itch and cholestatic itch by inhibiting spinal oxidative stress and synaptic plasticity via SIRT1-?-catenin pathway in mice. Redox biology, 79, 103472.

Gutfreund C, et al. (2025) Structural insights into a DNA polymerase reading the xeno nucleic acid HNA. Nucleic acids research, 53(1).

Bencun M, et al. (2025) A novel uORF regulates folliculin to promote cell growth and lysosomal biogenesis during cardiac stress. Scientific reports, 15(1), 3319.

Kabrani E, et al. (2025) RIF1 integrates DNA repair and transcriptional requirements during the establishment of humoral immune responses. Nature communications, 16(1), 777.

Koeppl LH, et al. (2024) Structure, function and substrate preferences of archaeal Sadenosyl-L-homocysteine hydrolases. Communications biology, 7(1), 380.

Baxa MC, et al. (2024) How hydrophobicity, side chains, and salt affect the dimensions of disordered proteins. Protein science : a publication of the Protein Society, 33(5), e4986.

Henis M, et al. (2024) The autism susceptibility kinase, TAOK2, phosphorylates eEF2 and modulates translation. Science advances, 10(15), eadf7001.

Baral R, et al. (2024) A General Mechanism for the General Stress Response in Bacteria. bioRxiv : the preprint server for biology.

Woltz R, et al. (2024) The NS1 protein of influenza B virus binds 5'-triphosphorylated dsRNA to suppress RIG-I activation and the host antiviral response. bioRxiv : the preprint server for biology.

Puppala AK, et al. (2024) Human selenocysteine synthase, SEPSECS, has evolved to optimize binding of a tRNA-based substrate. Nucleic acids research, 52(21), 13368.

Xu X, et al. (2024) Substrates mimicking the blastocyst geometry revert pluripotent stem cell to naivety. Nature materials, 23(12), 1748.

Kulma M, et al. (2024) The ubiquitin-specific protease 21 is critical for cancer cell mitochondrial function and regulates proliferation and migration. The Journal of biological chemistry, 300(10), 107793.

Buhlheller C, et al. (2024) SymProFold: Structural prediction of symmetrical biological assemblies. Nature communications, 15(1), 8152.

Dobert JP, et al. (2024) Activation and Purification of ß-Glucocerebrosidase by Exploiting its Transporter LIMP-2 - Implications for Novel Treatment Strategies in Gaucher's and Parkinson's Disease. Advanced science (Weinheim, Baden-Wurttemberg, Germany), 11(25), e2401641.

Mehrabipour M, et al. (2024) SIRT4 as a novel interactor and candidate suppressor of C-RAF kinase in MAPK signaling. Life science alliance, 7(6).