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Structural Biology Knowledgebase: An Integrated Resource for Modern Biologists

M. Gabanyi¹, P. Adams², L. Chen¹, P. DePietro³, L. Gifford², J. Haas⁴, W. Minor⁵, W. McLaughlin³, T. Schwede⁴, Y. Tao¹, J. Westbrook¹,
M. Zimmerman⁵, H. Berman¹

¹Rutgers University, Center for Integrative Proteomics Research, Piscataway, NJ, USA, ²Lawrence Berkeley National Laboratory, Physical Biosciences Division, Berkeley, CA, USA, ³The Commonwealth Medical College, Basic Sciences Department, Scranton, PA, USA, ⁴University of Basel & Swiss Institute of Bioinformatics, BioZentrum, Basel, Switzerland, ⁵University of Virginia, Department of Molecular Physiology and Biological Physics, Charlottesville, VA, USA

The Structural Biology Knowledgebase (SBKB, <http://sbkb.org>) was established as a data aggregator to facilitate research design and analysis for a wide variety of biological systems. It serves as a single resource that integrates structure, sequence, and functional annotations plus technical information regarding protein production and structure determination. Researchers can search the SBKB by sequence, PDB ID or UniProt accession code, and receive an up-to-the-minute list of matching 3D experimental structures from the Protein Data Bank, pre-built theoretical models from the Protein Model Portal, annotations from 100+ open biological resources, structural genomics target histories and protocols from TargetTrack, and ready-to-use DNA clones from DNASU. It is also possible to find structures according to functional relevance (KB-Rank tool), or find related technologies and publications from the PSI Technology and Publications Portals, respectively. Interactive tools such as real-time theoretical modeling and biophysical parameter prediction also enhance understanding of proteins that are not yet well characterized. Experimentally-focused "hubs" collect links to helpful tools and resources for the areas of Structural Targets; Structure, Sequence and Function; Homology Models, Methods and Technologies, and Membrane Proteins. In partnership with the Nature Publishing Group, latest research highlights and articles on specific biological systems are written monthly to share the impact of structural biology. This presentation will demonstrate how the SBKB turns data into knowledge and enables further research. SBKB is funded by a grant from the National Institute of General Medical Sciences of the National Institutes of Health (U01 GM093324).

[1] M.J. Gabanyi, P.D. Adams, K Arnold et al., *J Struct Funct Genomics*, 2011, 12(2), 45-54

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