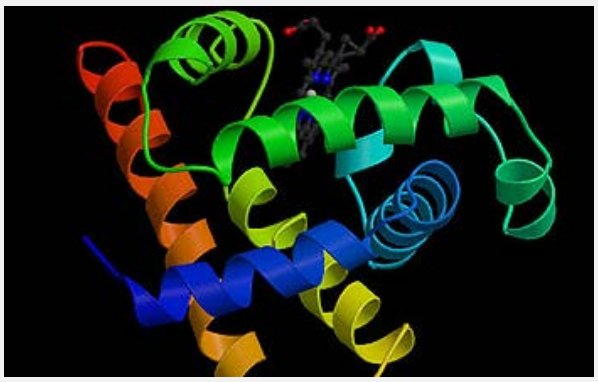
Fact Sheet

Protein Data Bank - Chronology

Timeline for Structural Biology and the Protein Data Bank



Myoglobin, the first protein structure to be determined at high resolution.
Credit and Larger Version

January 21, 2004

1913 **X-ray diffraction**: Max von Laue, William Henry Bragg, and William Lawrence Br

1957	**Muscle's myoglobin, the first protein structure revealed**: After 22 years of wo Cavendish Laboratory in Cambridge (UK) uses X-ray diffraction to determine the myoglobin, the first protein to have its structure determined. Kendrew and Max Pe Nobel Prize for their work on protein structure determination. During the next deca structures of proteins would be determined.
1967	**First American groups to solve a protein structure**: Two teams announce the ribonuclease: One was from the Roswell Park Memorial Institute (now the Roswe (See G. Kartha, J. Bello, and D. Harker. "Tertiary structure of ribonuclease." Natu The other was from Yale University. (See H. W. Wyckoff, K. D. Hardman, N. M. A Tsernoglou, L. N. Johnson, and F. M. Richards, "The structure of ribonuclease-S Chem. (1967), 242, 3749-3753.)
Summer, 1971	**Idea hatches for repository**: At a Cold Spring Harbor Symposium on "Structure at the Three-Dimensional Level," participants propose the development of a dual Kingdom and U.S. for macromolecular structure information. Walter Hamilton of th volunteers to set up the U.S. component at Brookhaven National Laboratory
Oct. 1971	**Protein Data Bank established**: The establishment of the Protein Data Bank at in Nature New Biology (see "Crystallography, Protein Data Bank [Announcement] 233, 223). The new repository contains fewer than a dozen structures.
1975	**NSF begins support**: Thomas Koetzle, who assumed responsibility for the Prote Hamilton's untimely death, submits an unsolicited proposal to NSF. The first NSF Protein Data Bank is made on November 1, 1975 (NSF-7518956).
1975	**Deposits**: 18 structures are deposited in the Protein Data Bank in 1975, yielding since its founding in 1971.
1980	**Deposits**: 19 structures are deposited in 1980, bringing the total to 184 depositio Protein Data Bank.
1989	**Protein Data Bank partnership grows**: The Protein Data Bank becomes a broa when the Department of Energy (DOE) and components of the National Institutes in providing direct support for Protein Data Bank activities.
1990	**Deposits**: 236 structures are deposited in Protein Data Bank in 1990, with a total its founding.
1994	**Interagency support grows**: Memorandum of Understanding signed by NSF, DO Medicine, and the National Institute of General Medical Sciences (NIGMS) forms partnership for support of the Protein Data Bank.
1995	**Renewed support for Protein Data Bank**: Open competition results in award to Brookhaven National Laboratory for continued support of the Protein Data Bank (

	investigator) and John Westbrook of Rutgers University, Peter Arzberger and Phi Diego Supercomputer Center at the University of California at San Diego (SDSC/ of the National Institute of Standards and Technology (NIST).
2000	**Deposits**: 2,937 structures are deposited in Protein Data Bank in 2000, with a tot since its founding.
2000	**MOM's poster proteins**: The Molecule of the Month, authored by David Goodsel Institute, begins its profiles of key and interesting biomolecular structures with my honorees include DNA, RNA, ribosomes, and anthrax toxin.
Aug. 2003	**Agencies double**: A new Memorandum of Understanding creates a broad coaliti agencies in support of the Protein Data Bank: NSF, DOE, NLM, NIGMS, National National Center for Research Resources (NCRR), National Institute of Biomedica Bioengineering (NIBIB), and the National Institute of Neurological Disorders and S
Dec. 2003	**Global collaboration**: The Protein Data Bank achieves formal, international statu international management of the Protein Data Bank archives is announced in Nat Signatories are the RCSB, the European Bioinformatics Institute (EBI) and the Ins Research at Osaka University. The partners are to serve as custodians of the wo "with the goal of maintaining a single archive of macromolecular structural data th available to the global community."
2003	**Deposits**: While the first protein structure took 22 years to solve, structures now Bank at an average rate of more than 10 per day: more than 4,600 new deposits were made in 2003, bringing the total of accessible structures to nearly 24,000.
2004	**New era launched**: With funding from eight federal agencies, the new five-year, period begins with the RCSB.

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