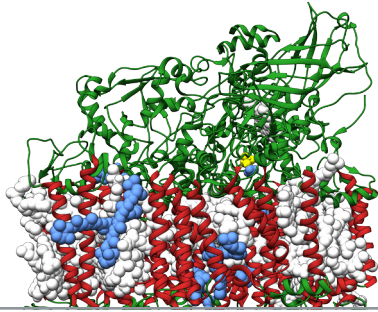


RCSB PDB: Enabling Breakthroughs in Scientific and Biomedical Research and Education

RCSB **PDB**
PROTEIN DATA BANK

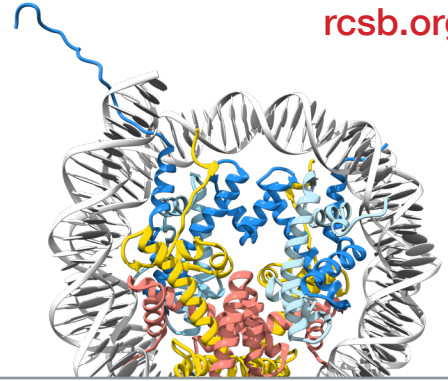
rcsb.org



Protein Data Bank (PDB) was established as the 1st open access digital data resource in all of biology and medicine. It is today a leading global resource for experimental data central to scientific discovery.

Through an internet information portal and downloadable data archive, the PDB provides access to 3D structure data for large biological molecules (proteins, DNA, and RNA). These are the molecules of life, found in all organisms on the planet.

Knowing the 3D structure of a biological macromolecule is essential for understanding its role in human and animal health and disease, its function in plants and food and energy production, and its importance to other topics related to global prosperity and sustainability.



RCSB PDB operates the US data center for the global PDB archive, and makes PDB data available at no charge to all data consumers without limitations on usage.

PDB ARCHIVE CONTAINS >1 TB OF STRUCTURE DATA FOR PROTEINS, DNA, AND RNA

THE COST TO REPLICATE THE CONTENTS OF THE PDB ARCHIVE IS ESTIMATED AT MORE THAN \$23 BILLION USD

THE PDB ARCHIVE

- Grows at the rate of nearly **10% per year**
- Used to download **~5 million** structure data files per day
- Managed by **International collaboration** US-Asia-Europe
- Manages **"Big Data"** as global Public Good
- Provides data critical to **AI/ML development**

PDB DATA

- Enable research in subject areas from **Agriculture to Zoology**
- Contributed data to **>1 million published research papers**
- Used by **>500 biological data resources**

PDB DATA IMPACT

- Basic and applied research
- Patent applications
- Discovery of lifesaving drugs
- Innovations that can lead to new product development and company formation
- **Training, Outreach, and Education:** PDB-101 materials illustrate how PDB data help explain fundamental biology, biomedicine, energy sciences, and biotechnology

MILLIONS OF DATA CONSUMERS
WORLDWIDE SERVED EVERY YEAR

RETURN ON INVESTMENT

Researchers, scientists, educators, students, curious public, medical professionals, patients, and patient advocates

Private sector, including pharmaceutical and biotechnology companies

Generates **return on investment** of more than 1,500 times federal funding

Managed by **RUTGERS** **UC San Diego** **SDSC** **UCSF**

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