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A Structural View of Biology

This resource is powered by the Protein Data Bank archive-information about the 3D shapes of proteins, nucleic acids, and complex assemblies that helps students and researchers understand all aspects of biomedicine and agriculture, from protein synthesis to health and disease.

As a member of the wwPDB, the RCSB PDB curates and annotates PDB data.

The RCSB PDB builds upon the data by creating tools and resources for research and education in molecular biology, structural biology, computational biology, and beyond.



June Molecule of the Month





Protein Structure Visualization

- Cartoon: this type of protein Visualization highlights the secondary structure differences. In general, α-helix is represented as a type of screve strands as arrows, and loops as lines.
- Lines: each amino acid residue is represented by thin lines, which allows a low cost for graphic rendering.
- Surface: in this visualization, the external shape of the molecule is shown.
- Sticks: each covalent bond between amino acid atoms is represented as a stick. This type of visualization is most used to visualize interactions between amino acids.

- Secondary Structure Prediction
 Notesale.
 Directly predicting BD structure of a protein based on amino acid sequence is very difficult task.
- Prediction of local structural regions is easier.
- Bridge between the linear information and the 3D structure.
- Programs in the field often employ different types of machine learning approaches.

- The input sequence is threaded on different folds from library of known folds.
- Statistically significant score tells the input protein adopts similar 3Dstructure to that of the common fold.