Protein: function and structure

A. Function

- Catalytic activity & involved metabolic pathway
- Cellular and subcellular localization
- Differential expression (tissue or organ)
    - gene expression, expression profile, promoter analysis
- Physiological function & relevant disorder

B. Structure

- Primary, secondary, and tertiary structures
    - amino acid sequence, gene and genomic organizations
    - possible modification, motif sequence
    - isoforms
- 3D structure
    - predicted structure
    - domain structure

C. Evolutionary conservation

- Multiple alignment, phylogeny, synteny
- Structural & functional differences between prokaryote and eukaryote