



Diagnosis

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- **Genome Sequencing**

- Genomics: sequencing of genomes, i.e. the total DNA of human, plant, animals, insects, bacteria, etc.
- Aim: find new drugs, understand cell actions
- Limitations of Genomics Challenge

- Genome to proteome
 - Level of mRNA not necessarily equal to level of protein product
 - Proteins are the actuators
- Proteomics: Study of the complete complement of proteins present in a cell or system of cells

- Proteome Complexity
 - Genome: 4 nucleotides, double helix, same in all cells, static
 - Proteome: 20 amino acids, unique 3D shape, differs with cell type, labile

- **Clinical Proteomics**
 - Develop new biomarkers for disease diagnosis and early detection
- **Disease Diagnostic from Body Fluids and Biopsies**
- Toxicology and Pharmaceuticals
- Cancer