

## **IPRO 318: SEARCHING FOR NOVEL DRUG TARGETS**

Genetic diseases afflict masses of the general population. With the increase in knowledge and materials one can hope that some day genetic diseases will be a part of history instead of common place. This IPRO is focused on determining protein sequences that are associated with genetic disorders and determining whether the associated protein sequences are suitable for drug targeting.

### **OBJECTIVES:**

- Research diseases and their respective protein sequences.
- Compile all the data into an organized database.
- Analyze the data to determine several protein sequences of relevance.
- Begin experimentally testing several protein sequences.
- Develop a logbook of the experiments done and the results including pictures.
- Create detailed information for continuing IPROs to resume testing.

**METHODOLOGY:** The IPRO team was split into two groups, a research team and a benchwork team.

#### **Benchwork Team**

Yeast Two Hybrid Team: Grows yeasts with appropriate plasmids for use by the protein expression team.  
Protein Expression Team: Targets proteins within the yeast

#### **Research Team**

Database Team: Research and organize diseases and their related protein sequences for creation of the database and use by the benchwork team.

Website Design Team: responsible for creating the website for the IPRO which will include information on the IPRO, the team members, and also the Database as designed by the other team.

### **RESULTS:**

#### **Yeast Two Hybrid Team:**

Was able to determine whether the proteins in question interact with each other and whether they are suitable for drug targeting .

#### **Protein Expression Team:**

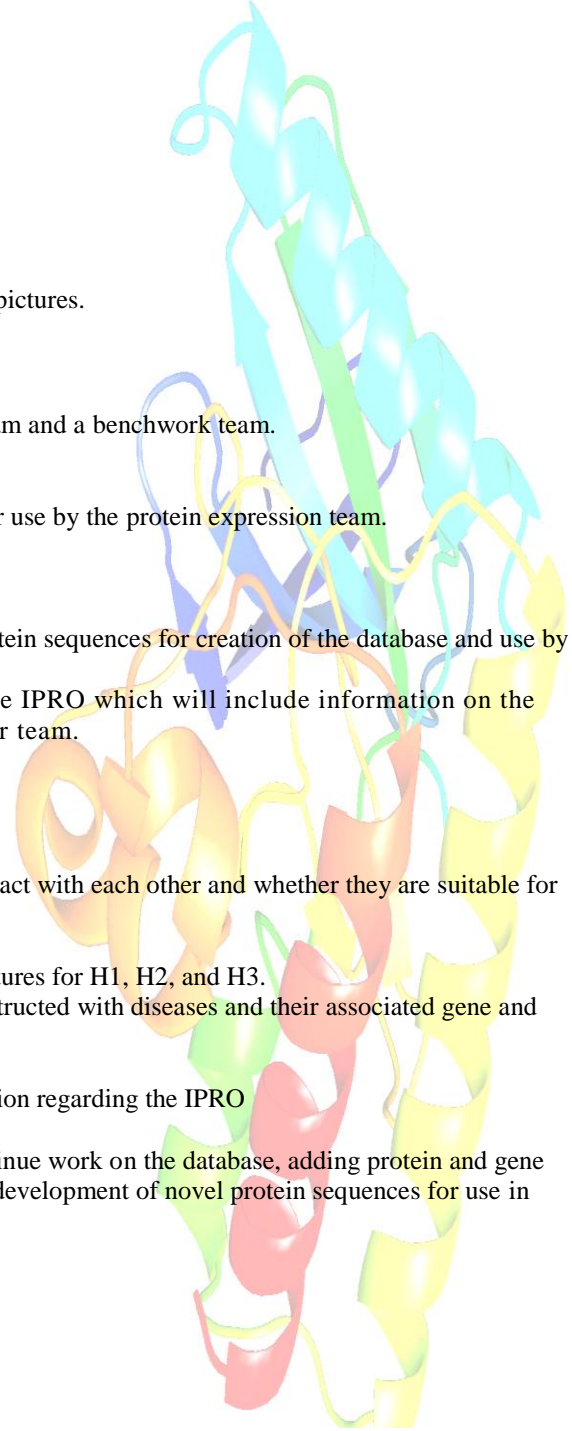
Was successfully able to isolate and model the protein structures for H1, H2, and H3.

Database Team: The first part of the database has been constructed with diseases and their associated gene and protein number.

#### **Website Design Team:**

Significant progress was made on the website with information regarding the IPRO

**RECOMMENDATIONS:** As a team we would like for future IPROs to continue work on the database, adding protein and gene sequences to each of the diseases. We would also like to see the research and development of novel protein sequences for use in drug targeting.



H2 model protein. Designed using RasMol.

Professor Zhang

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