

Discuss the BLASTN, BLASTX, and BLASTP results that you got for your clone

What do the various values mean?

Are the e-values different for each search? What does this mean?

Are the matches significant? Why or why not?

What are the advantages and disadvantages of each type of BLAST?

Show a ClustalW multiple sequence alignment of at least 6 different homologs of your protein

What type of organisms does the gene from *Artemia* most strongly cluster with? From your results, speculate as to which organism is the most evolutionarily related to *Artemia*?

Report on the function of the protein

Does it have a specific enzymatic activity? (kinase, methylase, phosphatase)

What does this activity do?

What cellular process is it involved in? (translation, energy synthesis, protein degradation)

Is the protein part of a bigger complex?

What other proteins does it interact with?

When and where is it expressed in the organism? (muscle, nerves, gut)

Is it localized to a specific place in the cell (mitochondria, membrane, nucleus)

Is there a human homolog?

Are effects in the human protein associated with a disease?

What is the size of the protein in the closest homologous organism?

How many amino acids does your sequence code for?

Are there multiple domains in your protein?

What are the function of these other domains?

There is a maximum of 5 pages for the whole report.

The report is due 12 noon on Dec 18.

e-mail a copy to both Dr. Sofer and Dr. Vershon

or deliver a hard copy in Dr. Sofer's mailbox by the due date.

You will lose one grade for each day that it is late.