Name:_____

BIO/CMPSC 300
UniProt and String online tools Activity
Fall 2017

1. Go to UniProt online tool http://www.uniprot.org/ to choose a protein sample which has domains. What is the ID that you chose?

2. What is the general function (in a brief summary) of this protein?

3. What kinds of information does the "Names and Taxonomy" tab provide? You may need to spend some time researching this.

4. What organism(s) does this protein come from? Name up to three.

5. How many domains does this protein have according UniProt?

6. What kinds of information does the "PTM and Processing" tab provide? You may need to spend some time researching this.

7. How many domains does this protein have?

8. Name up to three of domain.

9. Run a Blast search on one of the domains. Describe what you see in terms of where else this domain turns up across biology.

10. Submit a screen shot of your Blast output page.

11. Are the functions of these other domains similar to the definition that you summarized above? Briefly explain.

12. Go to the Strings online too at https://string-db.org/ and search for your UniProt ID. Change the settings to include a network screenshot of the protein's interaction with other proteins according to both *text mining* and *experiments.* Please include a screen shot of both the *text mining* and the *experiment* networks.

13. Compare and contrast the above networks. Which nodes do you see are still the same and which are different? What makes the difference between a node being included and not included in a network.

14. For each network, perform a k-means clustering. Describe the outcome of the clustering tasks and attach a screenshots.

15. What evidence, according to the Analysis tab, can you find concerning domain activity? Describe what you observe..