

Ella Xu
BME 3340
L1 Protein Structure

1. After viewing each protein write down a hypothesis for what you think the function of that protein may be (hint: it's okay if you have no idea, just make something up that seems plausible)
 1. P3 and P4 are similarly structured (cylindrical roughly), so perhaps some kind of structural protein. I would guess that P1, P2, and P5 are enzymes.
2. Are there any features of the structures that stand out? Do you notice any consistent structures across proteins?
 1. P1, P2, and P5 have alpha helices. P5 has a tail. P3 and P4 have a beta barrel structure.
3. From the top BLAST matches identify the name of your protein and which organism it likely came from.
 1. P1 - the name of the protein is glucokinase. It likely came from the bacteria *Escherichia albertii*.
4. Now that you know the name and organism of your protein, look online and provide a brief description of the function of this protein. UniProt is a good database of protein information to try searching. <https://www.uniprot.org/>
 1. Glucokinase is an enzyme that phosphorylates glucose into glucose-6-phosphate. Glucokinase plays an important role in glucose metabolism because glucose-6-phosphate can then enter pathways such as glycolysis or the pentose phosphate pathway.