Uniprot activity 2

- Now let's examine Src kinase family of proteins
- Abl kinase is a Src kinase.
- Search for reviewed, human Src kinases with Src as the protein family filter.
- How many proteins are there?
  - How many human Src kinases?
  - How many Uniref100, Uniref90? What are these?
- Uniprot can give you information about the active site, binding site etc.
- Search for Src kinase (reviewed, human, Src as protein family filter)
- Select all and align.
- Can you identify any residues/regions that are highly conserved? (hint: motif) (hint: symbols underneath the alignment) (hint: look for a triplet)
- How conserved is the active site residue? What is it?
- Are there any variants around the active site residue? Use Feature Viewer to examine the sequence.
- The protein structure can also be visualized with Uniprot. Pick a Src kinase. For a Uniprot entry, there may be several PDB structures associated with it. Look under the column Positions. Pick the PDB ID with the maximum coverage (coverage refers to fraction of residues for which there is structural data with respect to the whole sequence length). What is the PDB ID for this structure? Visualize the structure within UniProt to obtain a view similar to that in the Abl kinase paper. What are the red dots?