**\*\* ONLY TEXT AND IMAGES APPEARING INSIDE THE RED BOXES WILL BE GRADED\*\***

1. If you can’t remember the name of your protein, go back to the pdb and use the entry code to search for the name of the protein.

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| INSERT the name and PDB Entry Code of your Protein |

1. Go the [NCBI web page](https://www.ncbi.nlm.nih.gov/) , and the use the pull-down menu to get to amino acid sequence of you protein. Using the name of your protein and the species, retrieve the amino acid sequence in FASTA format.

A screenshot of a computer

Description automatically generated

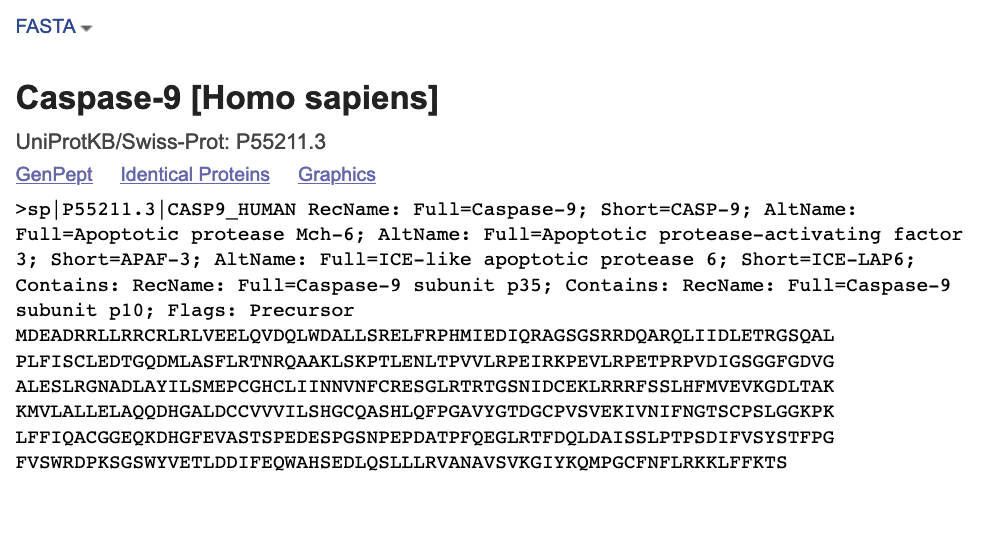


1. Click on FASTA (see above)to retrieve the amino acid sequence of your protein There are generally many entries for any given protein. Choose one that does not say ‘partial’. Note the [accession](https://www.ncbi.nlm.nih.gov/Sitemap/samplerecord.html" \l "AccessionB) and [version](https://www.ncbi.nlm.nih.gov/Sitemap/samplerecord.html#VersionB) number. It may be a UniProtKB ID (Universal Protein Knowledgebase ID), e.g., P55211.3 as shown below, or a GenBank ID. If there is a version number for the entry, highlight it yellow.



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| INSERT GenBank code or Accession ID HERE |

c) The FASTA entry looks like this (below). Retrieve the amino acid sequence of your protein





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| INSERT amino acid sequence HERE |

1. After you have opened the fasta file, find other proteins that have similar sequences. Click ‘Run BLAST’

A close-up of a text

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1. Use all the defaults on the Blast page. Notice that you are on the ‘blastp’ (standard protein blast) site and that your accession and version number is already in the Query box. Scroll down and click “Run Blast”. It could take a few minutes for the search to complete.
2. Scroll down the list of hits and and click on the sequence alignment of your target sequence with that of a different organism (not an organism that you entered in Blast).

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1. Here is an example that shows the alignment of the Caspase-9 of a human and an orangutang.

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Description automatically generated



Note that the only difference between Caspase-9 of human and of orangutang is a small insertion in orangutang and a couple of conservative point mutations.

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| INSERT screen shot of your sequence alignment HERE |