**Version 2.5.2024**

**A: Download the sequence of the accession number for your version NM\_...**

1. What does this sequence encode?
2. Download the third exon of this sequence in FASTA format, how long it is?
3. Is there a restriction enzyme that would cut the sequence of the third exon exactly once?
4. Does respective protein contain any transmembrane helices?
5. How many threonins (T) does respective protein contain?

**B: Work with following peptide sequence:**

421 sieafanarg aayeifkiid nkpsidsysk sghkpdnikg nlefrnvhfs ypsrkevkil

481 kglnlkvqsg qtvalvgnsg cgksttvqlm qrlydptegm vsvdgqdirt invrflreii

541 gvvsqepvlf attiaeniry grenvtmdei ekavkeanay dfimklphkf dtlvgergaq

601 lsggqkqria iaralvrnpk illldeatsa ldteseavvq valdkarkgr ttiviahrls

661 tvrnadviag fddgvivekg nhdelmkekg iyfklvtmqt agnevelena adeskseida

1. Rewrite this sequence in FASTA format.
2. To which human protein this peptide probably belongs (find reference sequence NP\_..)?
3. What is the molecular weigth of this peptide?
4. How long is the CDS encoding this protein?
5. Manually design primers for PCR amplification of the **CDS**, so the Tm is not higher than 65°C.