## Annotation Search

Annotation queries to try-

Go to the Annotation search page on Aplysi Tools (<http://aplysiatools.org/annotation.html>)

**Word Searches**

Adenosine Receptor

Dopamine

Ubiquitin-protein ligase

PFAM searches)

PF00001 (GPCRs)

PF00595 (PDZ domains)

## Transcriptome Search

To look for a new protein. You’ve decided that Aplysia would be a good model system for ALS, so better start studying Aplysia TDP-43/

First, go to NCBI protein

<https://www.ncbi.nlm.nih.gov/protein/>

Search for human TDP-43

Click on FASTA and then copy the protein sequence.

Go to Aplysiatools.org

Click on Transcriptome BLAST

Click “Here” to blast available transcriptome file

Paste the sequence

Select the box beside “00 unigenes merged”

Click on “TBLASTN” button

Look at the nice hits. Download the FastA sequence for the top hit.

Open it with text-edit or word. Copy the sequence

Go to BLASTX @ NCBI (<https://blast.ncbi.nlm.nih.gov/Blast.cgi>)

Click “Human” as the species to search against

Click on the “blastx” tab

Paste the sequence

Click on “BLAST” (Wait for up a minute)

Wow, you’ve found the Aplysia TDP-43 orthologue. Start working

Hey, did you notice that second hit on the Transcriptome Blast looked pretty good, better check that out too.

Here are some more examples:

https://www.ncbi.nlm.nih.gov/protein/Q13148.1

I add underscore for spaces

Kappa Opioid Receptor

<https://www.ncbi.nlm.nih.gov/protein/AAC50158.1>

GenBank: AAC50158.1

>AAC50158.1\_kappa\_opioid\_receptor

MDSPIQIFRGEPGPTCAPSACLPPNSSAWFPGWAEPDSNGSAGSEDAQLEPAHISPAIPVIITAVYSVVF

VVGLVGNSLVMFVIIRYTKMKTATNIYIFNLALADALVTTTMPFQSTVYLMNSWPFGDVLCKIVISIDYY

NMFTSIFTLTMMSVDRYIAVCHPVKALDFRTPLKAKIINICIWLLSSSVGISAIVLGGTKVREDVDVIEC

SLQFPDDDYSWWDLFMKICVFIFAFVIPVLIIIVCYTLMILRLKSVRLLSGSREKDRNLRRITRLVLVVV

AVFVVCWTPIHIFILVEALGSTSHSTAALSSYYFCIALGYTNSSLNPILYAFLDENFKRCFRDFCFPLKM

RMERQSTSRVRNTVQDPAYLRDIDGMNKPV