Bioinformatics Lab 6 RNA

mRNA/EST Translation

1) Visit the following site:
   https://www.ncbi.nlm.nih.gov/dbEST/
   dbEST retired
   https://ncbiinsights.ncbi.nlm.nih.gov/2019/07/25/est-and-gss-databases-now-retired/

2) Read the paper – OrfPredictor at
   http://proteomics.ysu.edu/courses/BIOL4800_6900/ExtraReadings/OrfPredictor.pdf

Go to the following site to practice using your own mRNA sequences or data downloaded from dbEST for any species - http://proteomics.ysu.edu/tools/OrfPredictor.html

3) Learn to use ORF-Finder at
   https://www.ncbi.nlm.nih.gov/orffinder/
   This tool is designed for a researcher to do annotation before submitting mRNA sequences to GenBank.

RNA

>NC_000014.9:c20609407-20609336 Homo sapiens chromosome 14, GRCh38.p13

GGCTCGTTGGTCTAGGGGTATGATTCTCGCTTAGGGTGCGAGAGGTCCCGGGTTCAAATCCCG

GACGAGCCC

>NC_000017.11:c8120395-8120314 Homo sapiens chromosome 17, GRCh38.p13

GGTAGCGTGGCCGAGCGGTCTAAGGCGCTGGATTTAGGCTCCAGTCTCTTCGGAGGCGTGGGT

TCGAATCCCACCGCTGCCA

Using above two sequences to test if they are tRNAs by tRNAScan:

http://lowelab.ucsc.edu/tRNAscan-SE/

Visit the following sites:

GEO: http://www.ncbi.nlm.nih.gov/geo/

RNA Central: https://rnacentral.org/

Extra-reading:

http://proteomics.ysu.edu/courses/BIOL4800_6900/ExtraReadings/RNA_central2019.pdf