**Lab 05:** Central Dogma I: Integrated pipeline for Building Web-based DNA Translation Tool

**Your Task**

To receive full credit for this lab, you must **answer** all following questions.

**Task 1: Get protein sequence for DNA sequence (**[**https://www.ncbi.nlm.nih.gov/nuccore/NM\_207618.2**](https://www.ncbi.nlm.nih.gov/nuccore/NM_207618.2)**), and compare it with sequence on NCBI website. Do you get same results?**

GGTCAGAAAAAGCCCTCTCCATGTCTACTCACGATACATCCCTGAAAACCACTGAGGAAGTGGCTTTTCAGATCATCTTGCTTTGCCAGTTTGGGGTTGGGACTTTTGCCAATGTATTTCTCTTTGTCTATAATTTCTCTCCAATCTCGACTGGTTCTAAACAGAGGCCCAGACAAGTGATTTTAAGACACATGGCTGTGGCCAATGCCTTAACTCTCTTCCTCACTATATTTCCAAACAACATGATGACTTTTGCTCCAATTATTCCTCAAACTGACCTCAAATGTAAATTAGAATTCTTCACTCGCCTCGTGGCAAGAAGCACAAACTTGTGTTCAACTTGTGTTCTGAGTATCCATCAGTTTGTCACACTTGTTCCTGTTAATTCAGGTAAAGGAATACTCAGAGCAAGTGTCACAAACATGGCAAGTTATTCTTGTTACAGTTGTTGGTTCTTCAGTGTCTTAAATAACATCTACATTCCAATTAAGGTCACTGGTCCACAGTTAACAGACAATAACAATAACTCTAAAAGCAAGTTGTTCTGTTCCACTTCTGATTTCAGTGTAGGCATTGTCTTCTTGAGGTTTGCCCATGATGCCACATTCATGAGCATCATGGTCTGGACCAGTGTCTCCATGGTACTTCTCCTCCATAGACATTGTCAGAGAATGCAGTACATATTCACTCTCAATCAGGACCCCAGGGGCCAAGCAGAGACCACAGCAACCCATACTATCCTGATGCTGGTAGTCACATTTGTTGGCTTTTATCTTCTAAGTCTTATTTGTATCATCTTTTACACCTATTTTATATATTCTCATCATTCCCTGAGGCATTGCAATGACATTTTGGTTTCGGGTTTCCCTACAATTTCTCCTTTACTGTTGACCTTCAGAGACCCTAAGGGTCCTTGTTCTGTGTTCTTCAACTGTTGAAAGCCAGAGTCACTAAAAATGCCAAACACAGAAGACAGCTTTGCTAATACCATTAAATACTTTATTCCATAAATATGTTTTTAAAAGCTTGTATGAACAAGGTATGGTGCTCACTGCTATACTTATAAAAGAGTAAGGTTATAATCACTTGTTGATATGAAAAGATTTCTGGTTGGAATCTGATTGAAACAGTGAGTTATTCACCACCCTCCATTCTCT

* Your Protein Sequence:

MSTHDTSLKTTEEVAFQIILLCQFGVGTFANVFLFVYNFSPISTGSKQRPRQVILRHMAVANALTLFLTIFPNNMMTFAPIIPQTDLKCKLEFFTRLVARSTNLCSTCVLSIHQFVTLVPVNSGKGILRASVTNMASYSCYSCWFFSVLNNIYIPIKVTGPQLTDNNNNSKSKLFCSTSDFSVGIVFLRFAHDATFMSIMVWTSVSMVLLLHRHCQRMQYIFTLNQDPRGQAETTATHTILMLVVTFVGFYLLSLICIIFYTYFIYSHHSLRHCNDILVSGFPTISPLLLTFRDPKGPCSVFFNC

* NCBI’s Protein Sequence:
* MSTHDTSLKTTEEVAFQIILLCQFGVGTFANVFLFVYNFSPIST
* GSKQRPRQVILRHMAVANALTLFLTIFPNNMMTFAPIIPQTDLKCKLEFFTRLVARST
* NLCSTCVLSIHQFVTLVPVNSGKGILRASVTNMASYSCYSCWFFSVLNNIYIPIKVTG
* PQLTDNNNNSKSKLFCSTSDFSVGIVFLRFAHDATFMSIMVWTSVSMVLLLHRHCQRM
* QYIFTLNQDPRGQAETTATHTILMLVVTFVGFYLLSLICIIFYTYFIYSHHSLRHCND
* ILVSGFPTISPLLLTFRDPKGPCSVFFNC

**Task 2: Get protein sequence for DNA sequence (**[**https://www.ncbi.nlm.nih.gov/nuccore/NM\_008220.5**](https://www.ncbi.nlm.nih.gov/nuccore/NM_008220.5)**), and compare it with sequence on NCBI website. Do you get same results?**

TTACGTTTGCTTCTGATTCTGTTGTGTTGACTTGCAACCTCAGAAACAGACATCATGGTGCACCTGACTGATGCTGAGAAGGCTGCTGTCTCTGGCCTGTGGGGAAAGGTGAACGCCGATGAAGTTGGTGGTGAGGCCCTGGGCAGGCTGCTGGTTGTCTACCCTTGGACCCAGCGGTACTTTGATAGCTTTGGAGACCTATCCTCTGCCTCTGCTATCATGGGTAATGCCAAAGTGAAGGCCCATGGCAAGAAAGTGATAACTGCCTTTAACGATGGCCTGAATCACTTGGACAGCCTCAAGGGCACCTTTGCCAGCCTCAGTGAGCTCCACTGTGACAAGCTGCATGTGGATCCTGAGAACTTCAGGCTCCTGGGCAATATGATCGTGATTGTGCTGGGCCACCACCTGGGCAAGGATTTCACCCCCGCTGCACAGGCTGCCTTCCAGAAGGTGGTGGCTGGAGTGGCTGCTGCCCTGGCTCACAAGTACCACTAAGCCCCTTTTCTGCTATTGTCTATGCACAAAGGTTATATGTCCCCTAGAGAAAAACTGTCAATTGTGGGGAAATGATGAAGACCTTTGGGCATCTAGCTTTTATCTAATAAATGATATTTACTGTCATCTCAAAAAAAAAAAAAAAAAA

* Your Protein Sequence:

MVHLTDAEKAAVSGLWGKVNADEVGGEALGRLLVVYPWTQRYFDSFGDLSSASAIMGNAKVKAHGKKVITAFNDGLNHLDSLKGTFASLSELHCDKLHVDPENFRLLGNMIVIVLGHHLGKDFTPAAQAAFQKVVAGVAAALAHKYH

* NCBI’s Protein Sequence:

MVHLTDAEKAAVSGLWGKVNADEVGGEALGRLLVVYPWTQRYFD

SFGDLSSASAIMGNAKVKAHGKKVITAFNDGLNHLDSLKGTFASLSELHCDKLHVDPE

NFRLLGNMIVIVLGHHLGKDFTPAAQAAFQKVVAGVAAALAHKYH

**Task 3: Get protein sequence for DNA sequence (**[**https://www.ncbi.nlm.nih.gov/nuccore/NM\_025580.2**](https://www.ncbi.nlm.nih.gov/nuccore/NM_025580.2)**), and compare it with sequence on NCBI website. Do you get same results?**

CGACGGGGAGCGCAGTGAAGGGGGGTGGGACCCGAACATGGCGGCGGTGGTAGCTGCTACGGCGCTGAAGGGCCGGGGGGCGAGAAATGCCCGCGTCCTCCGGGGGATCCTCTCTGGAGCCACAGCTAACAAGGCTTCCCAGAACAGGACCAGAGCACTGCAGAGCCACAGCTCACCAGAATGCAAGGAGGAGCCCGAGCCCCTCTCCCCTGAGCTAGAATACATTCCCAGAAAGAGGGGCAAGAACCCCATGAAAGCCGTGGGGCTAGCCTGGGCCATCGGCTTCCCCTGTGGTATCCTCTTCTTCGTCCTCACCAAGCAGGAAGTGGACAAGGACCGATTGAAGCAGATGAAAGCTCGTCAGAACATGCGGGTGTCCAACACGGGCGAGTATGAGAGCCAGAGGTTCAGGGCTTCACCCCAACAAGCCCAGTTCCCTGAGGTTGGGTCTGGGGCCCAGACCTGAGTGAGGATCACTGCAACCTTGTGCTAGACTATTGACTGCCGTCTTGTGTGGCCATGGCTCCTGAGGCCCACCAGAGGGCGCAGGATGCCCAAGCTGCTGCCAGCACCCAACTCTTCCACACCGTGGAAGGAGCCAAATGCAAATAAAGTTATTAAGTACTGACACGGAAAAAAAAA

* Your Protein Sequence:

MAAVVAATALKGRGARNARVLRGILSGATANKASQNRTRALQSHSSPECKEEPEPLSPELEYIPRKRGKNPMKAVGLAWAIGFPCGILFFVLTKQEVDKDRLKQMKARQNMRVSNTGEYESQRFRASPQQAQFPEVGSGAQT

* NCBI’s Protein Sequence:
* MAAVVAATALKGRGARNARVLRGILSGATANKASQNRTRALQSH
* SSPECKEEPEPLSPELEYIPRKRGKNPMKAVGLAWAIGFPCGILFFVLTKQEVDKDRL
* KQMKARQNMRVSNTGEYESQRFRASPQQAQFPEVGSGAQT

**Task 4: Get protein sequence for DNA sequence (**[**https://www.ncbi.nlm.nih.gov/nuccore/NM\_009735.3**](https://www.ncbi.nlm.nih.gov/nuccore/NM_009735.3)**), and compare it with sequence on NCBI website. Do you get same results?**

TTTCAGTGGCTGCTACTCGGCGCTTCAGTCGCGGTCGCTTCAGTCGTCAGCATGGCTCGCTCGGTGACCCTGGTCTTTCTGGTGCTTGTCTCACTGACCGGCCTGTATGCTATCCAGAAAACCCCTCAAATTCAAGTATACTCACGCCACCCACCGGAGAATGGGAAGCCGAACATACTGAACTGCTACGTAACACAGTTCCACCCGCCTCACATTGAAATCCAAATGCTGAAGAACGGGAAAAAAATTCCTAAAGTAGAGATGTCAGATATGTCCTTCAGCAAGGACTGGTCTTTCTATATCCTGGCTCACACTGAATTCACCCCCACTGAGACTGATACATACGCCTGCAGAGTTAAGCATGCCAGTATGGCCGAGCCCAAGACCGTCTACTGGGATCGAGACATGTGATCAAGCATCATGATGCTCTGAAGATTCATTTGAACCTGCTTAATTACAAATCCAGTTTCTAATATGCTATACAATTTATGCACGCAGAAAGAAATAGCAATGTACACATCACCTTCTTTATATCTTACTTTAAATATTTTATGCATGTTTTCAAAAAATTGGAAATATCCTAGATAGCTGAGCAATAAATCTTCAATAAGTATTTTGATCAGAATAATAAATATAATTTTAAGAACAATAGTTGATCATATGCCAAACCCTCTGTACTTCTCATTACTTGGATGCAGTTACTCATCTTTGGTCTATCACAACATAAGTGACATACTTTCCTTTTGGTAAAGCAAAGAGGCCTAATTGAAGTCTGTCACTGTGCCCAATGCTTAGCAATTCTCACCCCCAACCCTGTGGCTACTTCTGCTTTTGTTACTTTTACTAAAAATAAAAAAC

* Your Protein Sequence:

MARSVTLVFLVLVSLTGLYAIQKTPQIQVYSRHPPENGKPNILNCYVTQFHPPHIEIQMLKNGKKIPKVEMSDMSFSKDWSFYILAHTEFTPTETDTYACRVKHASMAEPKTVYWDRDM

* NCBI’s Protein Sequence:
* MARSVTLVFLVLVSLTGLYAIQKTPQIQVYSRHPPENGKPNILN
* CYVTQFHPPHIEIQMLKNGKKIPKVEMSDMSFSKDWSFYILAHTEFTPTETDTYACRV
* KHASMAEPKTVYWDRDM

**Task 5: Get protein sequence for DNA sequence (**[**https://www.ncbi.nlm.nih.gov/nuccore/NM\_011662**](https://www.ncbi.nlm.nih.gov/nuccore/NM_011662)**), and compare it with sequence on NCBI website. Do you get same results?**

GTCACACCAGGTCCCACCAGCCCCTGGACTGTGGTGTCCAGTGCATATCTGGCCACCATGGGGGCTCTGGAGCCCTCCTGGTGCCTTCTGTTCCTTCCTGTCCTCCTGACTGTGGGAGGATTAAGTCCCGTACAGGCCCAGAGTGACACTTTCCCAAGATGCGACTGTTCTTCCGTGAGCCCTGGTGTACTGGCTGGGATTGTTCTGGGTGACTTGGTGTTGACTCTGCTGATTGCCCTGGCTGTGTACTCTCTGGGCCGCCTGGTCTCCCGAGGTCAAGGGACAGCGGAAGGGACCCGGAAACAACACATTGCTGAGACTGAGTCGCCTTATCAGGAGCTTCAGGGTCAGAGACCAGAAGTATACAGTGACCTCAACACACAGAGGCAATATTACAGATGAGCCCACTCTATGCCCATCAGCGGCCTGATGCCCGGATCCGGTCATTCCAGATGCCTACTCAACAAGCCCTCTCTGGGATCAGGACTCCCGTTGGAATACAGATCCACAGGGTACCTCCCTGAGATATCTGACATTGTACCATTTCTGTCCCCAAATAAAAGACAGAGCAAAAAAAAAAAAAAAAAAAAAA

* Your Protein Sequence:

MGALEPSWCLLFLPVLLTVGGLSPVQAQSDTFPRCDCSSVSPGVLAGIVLGDLVLTLLIALAVYSLGRLVSRGQGTAEGTRKQHIAETESPYQELQGQRPEVYSDLNTQRQYYR

* NCBI’s Protein Sequence:
* MGALEPSWCLLFLPVLLTVGGLSPVQAQSDTFPRCDCSSVSPGV
* LAGIVLGDLVLTLLIALAVYSLGRLVSRGQGTAEGTRKQHIAETESPYQELQGQRPEV
* YSDLNTQRQYYR

**Task 6:** Give a brief overview of your work, discussing any thoughts, successes or challenges you faced.

My main challenge was properly implementing the code, other than that the rest of this lab was smooth and it was interesting to see my results from the webcode implementation.