Word macros that will translate a highlighted area of DNA sequence into protein sequence.

Copy the following script into the word macro editor.

Sub TranslateIncNucleotide()

'

' Translate DNA sequence but include the nucleotide sequence. Changing value of LineWidth to change the length of nucleotide per line.

'

'

' Take the selected text into a variable TransIn and put everything in capitals

Set TransInput = Selection.Range

TransIn = Replace(TransInput, "t", "T")

TransIn = Replace(TransIn, "a", "A")

TransIn = Replace(TransIn, "g", "G")

TransIn = Replace(TransIn, "c", "C")

' Count number of letters

DNALength = Len(TransInput)

nCount = DNALength / 3

'Run through the DNA sequence taking a codon at a time and adding space to it

'The codons are accumulated in the variable k

For a = 1 To nCount

b = a \* 3

i = Left(TransIn, b)

j = Right(i, 3)

' Add spaces (can also use j= j & " ")

j = j & " "

k = k & j

Next

CodHar = k

CodHar = Replace(CodHar, "TTT ", " F ")

CodHar = Replace(CodHar, "TTC ", " F ")

CodHar = Replace(CodHar, "TTG ", " L ")

CodHar = Replace(CodHar, "TTA ", " L ")

CodHar = Replace(CodHar, "CTA ", " L ")

CodHar = Replace(CodHar, "CTT ", " L ")

CodHar = Replace(CodHar, "CTG ", " L ")

CodHar = Replace(CodHar, "CTC ", " L ")

CodHar = Replace(CodHar, "ATT ", " I ")

CodHar = Replace(CodHar, "ATC ", " I ")

CodHar = Replace(CodHar, "ATA ", " I ")

CodHar = Replace(CodHar, "ATG ", " M ")

CodHar = Replace(CodHar, "GTT ", " V ")

CodHar = Replace(CodHar, "GTC ", " V ")

CodHar = Replace(CodHar, "GTA ", " V ")

CodHar = Replace(CodHar, "GTG ", " V ")

CodHar = Replace(CodHar, "TCT ", " S ")

CodHar = Replace(CodHar, "TCA ", " S ")

CodHar = Replace(CodHar, "TCC ", " S ")

CodHar = Replace(CodHar, "AGT ", " S ")

CodHar = Replace(CodHar, "AGC ", " S ")

CodHar = Replace(CodHar, "TCG ", " S ")

CodHar = Replace(CodHar, "CCA ", " P ")

CodHar = Replace(CodHar, "CCT ", " P ")

CodHar = Replace(CodHar, "CCC ", " P ")

CodHar = Replace(CodHar, "CCG ", " P ")

CodHar = Replace(CodHar, "ACT ", " T ")

CodHar = Replace(CodHar, "ACA ", " T ")

CodHar = Replace(CodHar, "ACC ", " T ")

CodHar = Replace(CodHar, "ACG ", " T ")

CodHar = Replace(CodHar, "GCT ", " A ")

CodHar = Replace(CodHar, "GCA ", " A ")

CodHar = Replace(CodHar, "GCC ", " A ")

CodHar = Replace(CodHar, "GCG ", " A ")

CodHar = Replace(CodHar, "TAT ", " Y ")

CodHar = Replace(CodHar, "TAC ", " Y ")

CodHar = Replace(CodHar, "TAA ", " - ")

CodHar = Replace(CodHar, "TAG ", " - ")

CodHar = Replace(CodHar, "CAT ", " H ")

CodHar = Replace(CodHar, "CAC ", " H ")

CodHar = Replace(CodHar, "CAA ", " Q ")

CodHar = Replace(CodHar, "CAG ", " Q ")

CodHar = Replace(CodHar, "AAT ", " N ")

CodHar = Replace(CodHar, "AAC ", " N ")

CodHar = Replace(CodHar, "AAA ", " K ")

CodHar = Replace(CodHar, "AAG ", " K ")

CodHar = Replace(CodHar, "GAT ", " D ")

CodHar = Replace(CodHar, "GAC ", " D ")

CodHar = Replace(CodHar, "GAA ", " E ")

CodHar = Replace(CodHar, "GAG ", " E ")

CodHar = Replace(CodHar, "TGT ", " C ")

CodHar = Replace(CodHar, "TGC ", " C ")

CodHar = Replace(CodHar, "TGA ", " - ")

CodHar = Replace(CodHar, "TGG ", " W ")

CodHar = Replace(CodHar, "AGA ", " R ")

CodHar = Replace(CodHar, "AGG ", " R ")

CodHar = Replace(CodHar, "CGT ", " R ")

CodHar = Replace(CodHar, "CGA ", " R ")

CodHar = Replace(CodHar, "CGC ", " R ")

CodHar = Replace(CodHar, "CGG ", " R ")

CodHar = Replace(CodHar, "GGT ", " G ")

CodHar = Replace(CodHar, "GGA ", " G ")

CodHar = Replace(CodHar, "GGC ", " G ")

CodHar = Replace(CodHar, "GGG ", " G ")

CodHar = Replace(CodHar, " ", " ")

' Define variable apc

Dim LineWidth

LineWidth = 80

pCount = DNALength / LineWidth

pCount = Int(pCount)

For a = 1 To pCount

b = a \* LineWidth

p = Left(TransInput, b)

nt = Right(p, LineWidth)

r = Left(CodHar, b)

prot = Right(r, LineWidth)

output = output & Chr(13) & nt & Chr(13) & prot

Next

'Deal with the extra sequence left over.

CalcLength = pCount \* LineWidth

Extra = DNALength - CalcLength

p = Left(TransInput, DNALength)

nt = Right(p, Extra)

r = Left(CodHar, DNALength)

prot = Right(r, Extra)

output = output & Chr(13) & nt & Chr(13) & prot

Selection.Font.Name = "Courier New"

Selection.Font.Size = 8

Selection.TypeText (output)

End Sub