What is the mRNA sequence for the following segment of DNA: --TAACGAATAGCCTGT-- ?
Based upon the mRNA sequence, what is the peptide sequence?

Solution: As it is known, mRNA is created by the complementarity principle from the DNA, every nucleotide of DNA will be transferred to a corresponding nucleotide of mRNA. Pairs of complementary nucleotides of DNA and mRNA are T-A, G-C, C-G, A-U, where first nucleotide belongs to the DNA, and the second – to the mRNA. In RNA nucleotide, complementary to adenine is not thymine, as it is in DNA, it's the uracil. Then, corresponding mRNA sequence will be --AUUGCUUAUCGGACA--.
The corresponding peptide sequence can be found by interpretation of codons – groups of three adjacent nucleotides. The peptide sequence will be Ile-Ala-Tyr-Arg-Thr, which means isoleucine – alanine – tyrosine – arginine – threonine.