



DNA, RNA and protein formation

Translation: reading the message

Commentary:

It turns out that each triplet of bases on the messenger RNA, called a codon, corresponds to a particular amino acid. Now there has to be a chemical connection between each triplet codon, and each amino acid. A special adaptor molecule called transfer RNA makes that connection. One end of the adaptor carries a particular triplet of bases called an anticodon. This matches up with a specific triplet codon on the messenger RNA. The other end of the transfer RNA is capable of binding to the unique amino acid corresponding to that anticodon. Since there are twenty amino acids there must be at least twenty different transfer RNA adaptors. So, for a protein chain to be assembled, each triplet codon on the message is read. The transfer RNA adaptor with the relevant anticodon binds the messenger. The amino acids at the other end of the transfer RNA adaptors become joined by a peptide bond. Once the transfer molecule is no longer needed, it's released. The process repeats, elongating the peptide chain until a stop codon is reached.