

Dna transcription essay



**ASSIGN
BUSTER**

The process of transcription is where a copy of a gene is made within DNA to use as RNA.

It is located in the nucleus of eukaryotes and in the nucleoid of prokaryotes. DNA stores information encoded in a genetic code. The code consists of four letters and they are T (thymine), G (guanine), A (Adenine), and C (cytosine).

One gene codes for one protein. RNA is a molecule that copies information that is coded in another genetic code. This code also consists of the same four letters as in DNA yet with U (uracil), which is a substitute for T (thymine). RNA is a single strand, and has ribose sugar and not deoxyribose sugar. Transcription happens when information from DNA is copied into RNA so it can then produce protein. The first step is transcription is when the RNA (polymerase) enters and opens the DNA promoter at the TATA box which is the promoter region. DNA promoters are specific sequences that begin the RNA ride along the DNA strand.

After connection with the RNA polymerase and promoter occurs the DNA strand is opened and the nucleotides are then exposed. Elongation begins when the RNA polymerase has reached the coding region of the DNA strand. The coding region is what contains the code that orders the amino acids that make up the protein produced. As the RNA polymerase molecule moves along the strand, it produces a growing mRNA strand that continues to grow as the nucleotides extend one by one.

This process continues until RNA polymerase has reached the termination signal which is one of the three stop codon (UGA, UAA, and UAG). The termination signal is where the process ends, causing the mRNA to fold back

upon itself. The process of transcription ends and the RNA and mRNA falls apart and separates from the DNA strand. In the RNA molecule an eukaryotic cell is usually interrupted by a section called introns which is the non coding regions.

This section must be removed by splicing and the molecule rejoins in the correct order.