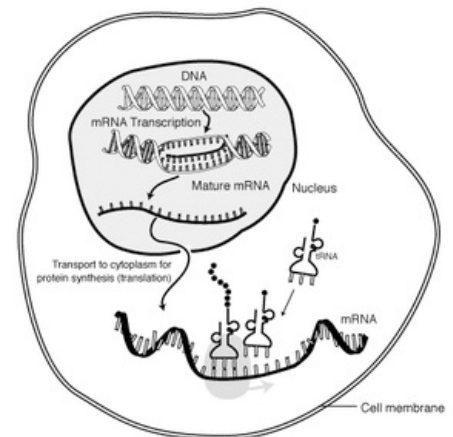


# mRNA

mRNA - **messenger RNA** is a type of RNA that is produced by the process of transcription according to the template in DNA, using the enzyme RNA polymerase and subsequently it is used as a template for the synthesis of proteins on ribosomes during the translation process. It consists of two non-coding sections and a coding section, which is separated from the non-coding sections by a start codon and a stop codon.

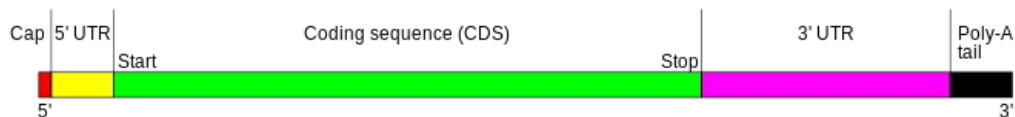
## mRNA in prokaryotes

Because prokaryotic organisms do not have a nucleus and translation and transcription occur in the same environment and their genes do not contain introns, almost no further editing is required, and the primary transcript can go straight to translation.



## mRNA in eukaryotes

For eukaryotes, the situation is more complicated. The primary transcript produced by RNA polymerase is not identical to the "mature" mRNA. Transcription takes place in the **nucleus' of the cell. Before leaving the nucleus, a "cap" (7-methylguanosine triphosphate attached by a 5'-5' bond to the 5' end of the RNA transcript) is enzymatically attached to the primary transcript at the 5'-end and a polyadenylic "at the 3'-end ``tail" (counting about 200 adenine residues). Furthermore, splicing takes place using a complex of snRNA and proteins (spliceosomes). Collectively, we talk about post-transcriptional modifications of RNA.**



## Links

### Related Articles

- RNA
- Transcript
- Translation

### External links

- ws:mRNA
- RNA (Czech Wikipedia)
- RNA (English Wikipedia)