12 November 2022

"We are not a political party nor are we a religious cult; we are simply a group of living beings, flesh and blood, spiritually united in heart and soul. We stand as ***individuals*** *yet* ***built together*** *under a* ***common, natural law****, which is shared by all, owned by none and which is* ***superior to any statute****. We each have a personal commitment, divinely inspired, to* ***do no harm****, to* ***cause no loss*** *to others, to* ***commit no fraud*** *and to* ***keep the peace****."*

The following text is taken from Wikipedia.

Messenger RNA -

In molecular biology, **messenger ribonucleic acid** (mRNA) is a single-stranded molecule of RNA that corresponds to the genetic sequence of a gene, and is read by a ribosome in the process of synthesizing a protein.

mRNA is created during the process of transcription, where an enzyme (RNA polymerase) converts the gene into primary transcript mRNA (also known as pre-mRNA). This pre-mRNA usually still contains introns, regions that will not go on to code for the final amino acid sequence. These are removed in the process of RNA splicing, leaving only exons, regions that will encode the protein. This exon sequence constitutes mature mRNA. Mature mRNA is then read by the ribosome, and, utilising amino acids carried by transfer RNA (tRNA), the ribosome creates the protein. This process is known as translation. All of these processes form part of the central dogma of molecular biology, which describes the flow of genetic information in a biological system.

As in DNA, genetic information in mRNA is contained in the sequence of nucleotides, which are arranged into codons consisting of three ribonucleotides each. Each codon codes for a specific amino acid, except

the stop codons, which terminate protein synthesis. The translation of codons into amino acids requires two other types of RNA: transfer RNA, which recognizes the codon and provides the corresponding amino acid, and ribosomal RNA (rRNA), the central component of the ribosome's protein-manufacturing machinery.

The concept of mRNA was developed by Sydney Brenner and Francis Crick in 1960 during a conversation with François Jacob. In 1961, mRNA was identified and described independently by one team consisting of Brenner, Jacob, and Matthew Meselson, and another team led by James Watson. While analysing the data in preparation for publication, Jacob and Jacques Monod coined the name "*messenger RNA*".

Synthesis, processing and function

The brief existence of an mRNA molecule begins with transcription, and ultimately ends in degradation. During its life, an mRNA molecule may also be processed, edited, and transported prior to translation. Eukaryotic mRNA molecules often require extensive processing and transport, while prokaryotic mRNA molecules do not. A molecule of eukaryotic mRNA and the proteins surrounding it are together called a messenger RNP.

Transcription

Transcription is when RNA is copied from DNA. During transcription, RNA polymerase makes a copy of a gene from the DNA to mRNA as needed. This process differs slightly in eukaryotes and prokaryotes. One notable difference is that prokaryotic RNA polymerase associates with DNA-processing enzymes during

transcription so that processing can proceed during transcription. Therefore, this causes the new mRNA strand to become double stranded by producing a complementary strand known as the tRNA strand, which when combined are unable to form structures from base-pairing. Moreover, the template for mRNA is the complementary strand of tRNA, which is identical in sequence to the anticodon sequence that the DNA binds to. The short-lived, unprocessed or partially processed product is termed *precursor mRNA*, or *pre-mRNA*; once completely processed, it is termed *mature mRNA*.

Transport

Another difference between eukaryotes and prokaryotes is mRNA transport. Because eukaryotic transcription and translation is compartmentally separated, eukaryotic mRNAs must be exported from the nucleus to the cytoplasm—a process that may be regulated by different signalling pathways.[3] Mature mRNAs are recognized by their processed modifications and then exported through the nuclear pore by binding to the cap-binding proteins CBP20 and CBP80,[4] as well as the transcription/export complex (TREX).[5][6] Multiple mRNA export pathways have been identified in eukaryotes.[7]

In spatially complex cells, some mRNAs are transported to particular subcellular destinations. In mature neurons, certain mRNA are transported from the soma to dendrites. One site of mRNA translation is at polyribosomes selectively localized beneath synapses.[8] The mRNA for Arc/Arg3.1 is induced by synaptic activity and localizes selectively near active synapses based on signals generated by NMDA receptors.[9] Other mRNAs also move into dendrites in response to external stimuli, such as β-actin mRNA.[10] Upon export from the nucleus, actin mRNA associates with ZBP1 and the 40S subunit. The complex is

bound by a motor protein and is transported to the target location (neurite extension) along the cytoskeleton. Eventually ZBP1 is phosphorylated by Src in order for translation to be initiated.[11] In developing neurons, mRNAs are also transported into growing axons and especially growth cones. Many mRNAs are marked with so-called "zip codes," which target their transport to a specific location.[12] mRNAs can also transfer between mammalian cells through structures called tunnelling nanotubes.[13][14]

Applications

The administration of a nucleoside-modified messenger RNA sequence can cause a cell to make a protein, which in turn could directly treat a disease or could function as a vaccine; more indirectly the protein could drive an endogenous stem cell to differentiate in a desired way.[38][39]

The primary challenges of RNA therapy centre on delivering the RNA to the appropriate cells.[40] Challenges include the fact that naked RNA sequences naturally degrade after preparation; they may trigger the body's immune system to attack them as an invader; and they are impermeable to the cell membrane.[39] Once within the cell, they must then leave the cell's transport mechanism to take action within the cytoplasm, which houses the necessary ribosomes.[38]

Overcoming these challenges, mRNA as a therapeutic was first put forward in 1989 "after the development of a broadly applicable in vitro transfection technique."[41] In the 1990s, mRNA vaccines for personalized cancer have been developed, relying on non-nucleoside modified mRNA. mRNA based therapies continue to be investigated as a method of treatment or therapy for both cancer as well as auto-immune, metabolic, and respiratory inflammatory diseases. Gene

editing therapies such as CRISPR may also benefit from using mRNA to induce cells to make the desired Cas protein.[42]

Since the 2010s, RNA vaccines and other RNA therapeutics have been considered to be "a new class of drugs."[43] The first mRNA-based vaccines received restricted authorization and were rolled out across the world during the **COVID-19** 'pandemic' by **Pfizer-BioNTech** COVID-19 vaccine and **Moderna**, for example..

*As further related reading we recommend 'The Seven Daughters of Eve' Bryan Sykes – **ISBN 978-0-552-15218-1** and in particular Chapter 11 – 'We are not amused'. Sykes has received very parsimonious online comment for his life's work, a sure sign that his research has ruffled globalist feathers.*