Intoduction

The mRNA is **read** according to the genetic code, three bases at a time [**codon**] each of which refers to an amino acid

Occurs in the **cytoplasm** of the cell

Produces **polypeptide** which undergo folding to become functional protein

Key Machineries

mRNA	Transcribed from DNA
Ribosome	Large & Small sub-units
	*Large sub-unit A-[**Aminoacyl**]-site, P-[**Peptidyl**]-site, E-[**Exit**]-site
	*Small sub-unit latches onto mRNA, forms the **initiation complex**
tRNA	Carrying Amino acid specified by anti-codon
GTP	supplies energy as hydrolyzes into GDP

The Process

Can be split into 3 steps as follows:

Initiation

Elongation

Termination

Step 1: Initiation

The Sequence	Small sub-unit looks for **initiator** seq.	
	In Prokaryotes, **Shine-Dalgarno** seq.	In Eukaryotes, **Kozak** seq.
tRNA #1	Charged with an **N-formylated Methionine**	Called only by **initiator AUG**

Initiation Factors	**IF-3**	Prevents binding of large sub-unit thus allowing small sub-unit to bind with mRNA
	IF-2	Forms a complex with $^{f\text{-}Met}$**tRNA** & **GTP** and binds with the small sub-unit
	IF-1	Joins in after $^{f\text{-}Met}$**tRNA** arrives at iniatiation codon **AUG**

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