

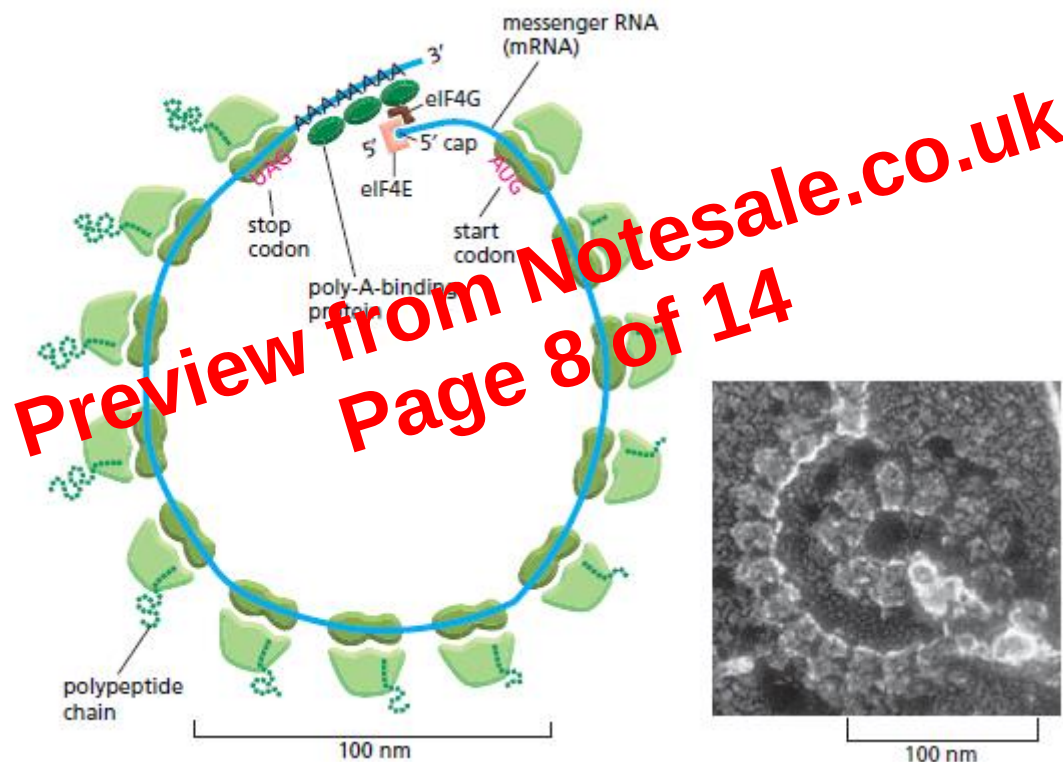
8. Release factors ($tRNA^{peptidylhydrolase}$) bind to STOP codon at "A" → cleaves peptide bond → forcing peptidyl transferase in LSU to catalyze addition of H_2O to peptidyl-rRNA

[Example of **molecular mimicry**; Release factors resemble the shape of a chemically unrelated molecule, tRNA. This allows them to enter "A" site]

9. (COO-) end of polypeptide chain is free from tRNA → peptide chain is released into cytoplasm → ribosome releases mRNA

Polyribosome: A series of ribosomes simultaneously translate the same eukaryotic mRNA molecule

- Acts on eIF₄-coiled mRNA
- Increases translation efficiency



(Image source: Molecular Biology of the Cell 5th edition, page 382)

Genetic code

- Universal
- 3rd amino acid often doesn't make any difference
- Exception 1: *Candida albicans* (human fungal pathogen); translates CUG = serine (normally leucine)
- Exception 2: Mitochondria; translates AUA = methionine (normally isoleucine in cytosol of cell)

First base	Second base				Third base
	U	C	A	G	
U	Phenylalanine	Serine	Tyrosine	Cysteine	U
	Phenylalanine	Serine	Tyrosine	Cysteine	C
	Leucine	Serine	Stop (Ochre)	Stop (Opal) [†]	A
	Leucine	Serine	Stop (Amber) [‡]	Tryptophan	G
C	Leucine	Proline	Histidine	Arginine	U
	Leucine	Proline	Histidine	Arginine	C
	Leucine	Proline	Glutamine	Arginine	A
	Leucine	Proline	Glutamine	Arginine	G
A	Isoleucine	Threonine	Asparagine	Serine	U
	Isoleucine	Threonine	Asparagine	Serine	C
	Isoleucine	Threonine	Lysine	Arginine	A
	Methionine*	Threonine	Lysine	Arginine	G
G	Valine	Alanine	Aspartic acid	Glycine	U
	Valine	Alanine	Aspartic acid	Glycine	C
	Valine	Alanine	Glutamic acid	Glycine	A
	Valine	Alanine	Glutamic acid	Glycine	G

Preview from Notesale.co.uk
Page 10 of 14