
QUADRANT II – TRANSCRIPT AND RELATED MATERIALS

Programme: Bachelor of Science (Third Year)

Subject : ZOOLOGY

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Course Title: MOLECULAR BIOLOGY AND EVOLUTION

Unit 3: TRANSLATION

Module Name: DIFFERENCE BETWEEN PROKARYOTIC AND EUKARYOTIC TRANSLATION

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GLOSSARY OF TERMS/WORDS:

Synchronous - Existing or occurring at the same time.

Asynchronous - Not existing or occurring at the same time.

Polyadenylation – It is the addition of a poly(A) tail to an RNA transcript, typically a messenger RNA (mRNA).

Polycistronic – Transcription of two or more adjacent cistrons into a single messenger RNA molecule.

Monocistronic – Transcription unit containing a structural gene coding for only one polypeptide.

Shine-Dalgarno sequence- A short stretch of nucleotides on a prokaryotic mRNA molecule upstream of the translational start site, that serves to bind to ribosomal RNA and thereby bring the ribosome to the initiation codon on the mRNA.

Initiation factors- Initiation factors are proteins that bind to the small subunit of the ribosome during the initiation of translation.

Elongation factors - Elongation factors are a set of proteins that function at the ribosome, during protein synthesis, to facilitate translational elongation from the formation of the first to the last peptide bond of a growing polypeptide

Release factors- A release factor is a protein that allows for the termination of translation by recognizing the termination codon or stop codon in an mRNA sequence

Introns- A segment of a DNA or RNA molecule which does not code for proteins and interrupts the sequence of gene
