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Dept. of Zoology

Topic: Molecular basis of inheritance

Class - XII

Subject - Biology

Exception to degeneracyAUG₁ → Methionine (met)and UGG₁ → TryptophanAUG₁ and UGG₁ are non degenerate codon's

~~Wobble~~ — Wobble Base (3rd base of Codon) is responsible for degeneracy of genetic code.

It is also known as wobble Hypothesis given by Crick

— Initiation / start Codon

AUG₁ but sometimes GUG

— Termination Codon / stop codons

UAA — Ochre

UAG₁ — Amber

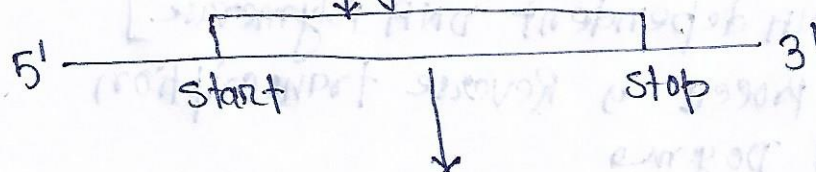
UGA — Opal

← Non-sense Codon

Monocistronic mRNA

mRNA having information for coding only one polypeptide (protein)

Reading frame



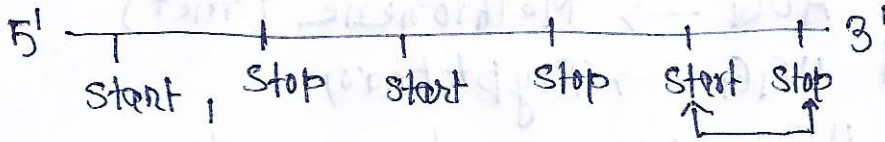
only one polypeptide

It is mostly found in Eukaryotes

Molecular basis of Inheritance

Polycistronic mRNA

Found in Prokaryotes

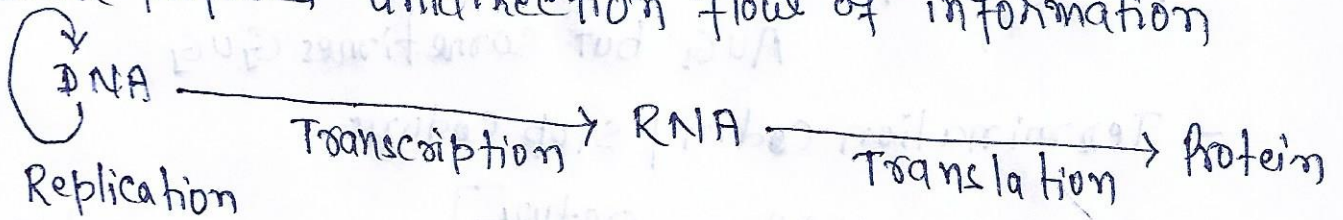


More than one structural genes between one promoter and one terminator from polycistronic mRNA

It has more than one start and stop codon's.

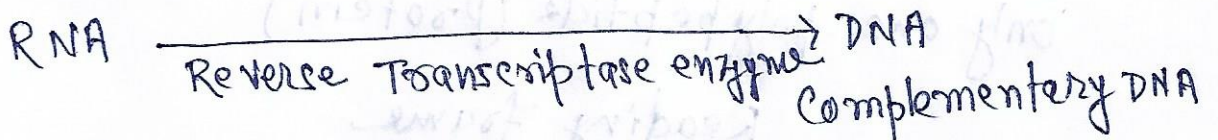
Central Dogma of (Tradition) Molecular Biology

Crick proposed unidirection flow of information



Termin and Baltimore found that Rous Sarcoma Virus (Retro Virus) has single stranded RNA as genetic material

It can synthesis



[RNA dependent DNA polymerase]

Process is Reverse transcription

Reverse Central Dogma

by Termin and Baltimore (also known as Terminism)

