

BIO-Informatics

Lecture - 1

DUAL SEMESTER

Date 16-08-22

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Central Dogma

The central Dogma is the process by which the instruction in DNA are converted into a functional product.

It was first proposed in 1958 by Francis Crick, discoverer of the structure of DNA.

In other words, it is a flow of genetic information from DNA to RNA, to make a ~~flow~~ functional product a ~~prot~~ protein.

The central dogma suggests that DNA contains the information needed to make all of our proteins and that RNA is a messenger (mRNA) that carries this information to the ribosome.

The process by which the DNA instruction are converted into the functional product is called gene expression.

Gene Expression has 2 stages

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Transcription: The information in the DNA of every cell is converted into small, portable RNA message.

DNA $\xrightarrow{\text{transcription}}$ RNA

Transcription: During translation, these messages travel from where

the DNA is the cell nucleus to the ribosome where they are "read" to make specific proteins.

RNA $\xrightarrow{\text{translation}}$ Protein.

Reverse Transcription: \uparrow HIV
retrovirus

Homework

① Reverse Transcription

next class:

Codon \rightarrow Protein

\downarrow
Genetic Coding.