

Bioinformatics

Biology of cell

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Overview

1 Introduction

- Objectives

2 The biology of cells

- Where is DNA?
- DNA structure
- Transcription and Translation
- From DNA to Protein

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Objectives

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- Understand about the biology of DNA.

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- Understand about the biology of DNA.
- Understand how is the process of protein synthesis from DNA.

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The biology of cells

Where is DNA?

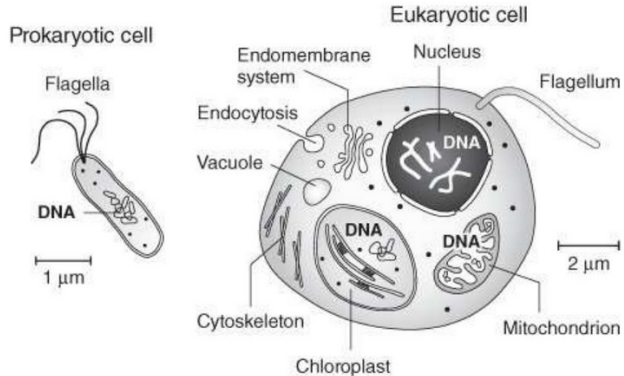


Figure: Where DNA is located in prokaryote and eukaryote cells [1].

The biology of cells

Where is DNA?

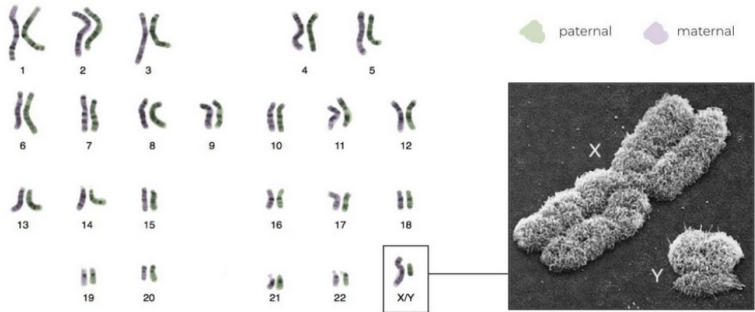


Figure: The 23 pairs of chromosomes in human cells [1].

The biology of cells

Where is DNA?

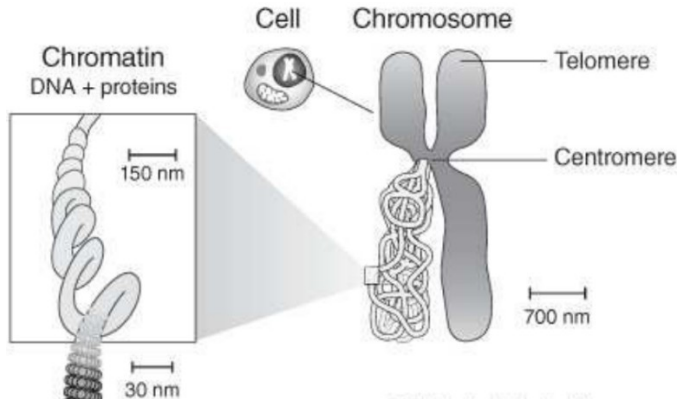


Figure: Chromatin: Material composed of DNA and proteins that condense to form chromosomes [1].

The biology of cells

Where is DNA?

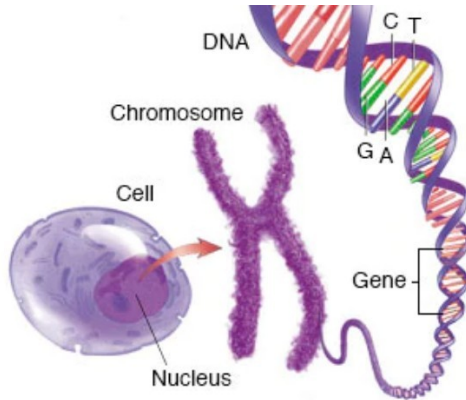


Figure: Where DNA is located [2].

The biology of cells

DNA structure

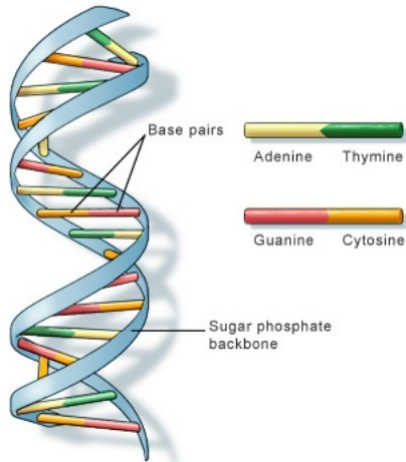


Figure: Molecules in DNA. Adenine, Thymine, Guanine and Cytosine [2].

The biology of cells

DNA structure

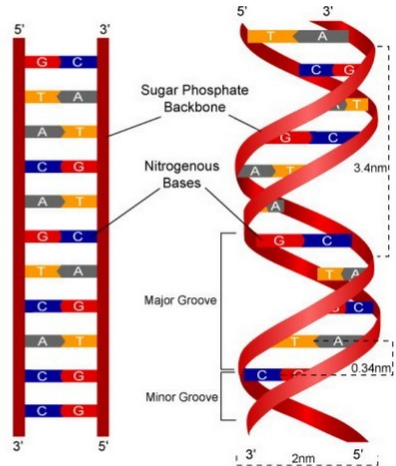
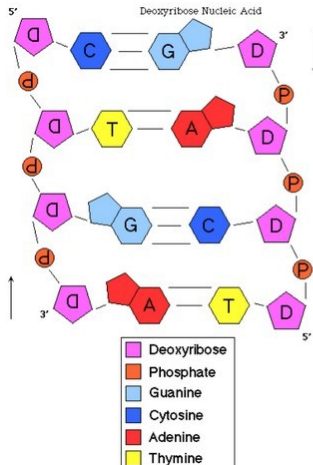


Figure: DNA structure [3].

The biology of cells

DNA structure

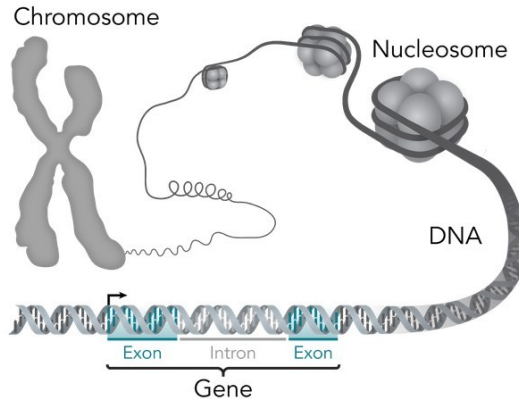


Figure: Chromosome-DNA-gene [4].

The biology of cells

Transcription and Translation

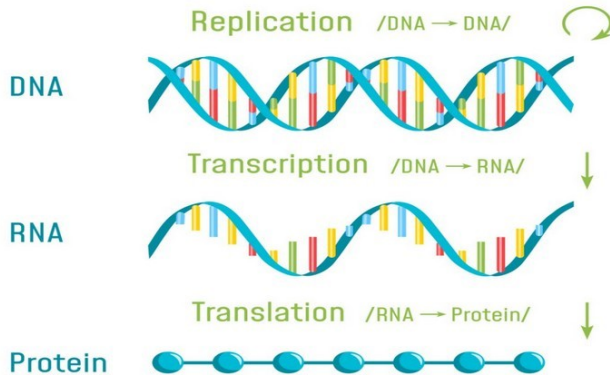


Figure: Transcription and Translation [4].

The biology of cells

From DNA to Protein

Click here to see the video



Figure: Video from DNA to protein.

The biology of cells

From DNA to Protein

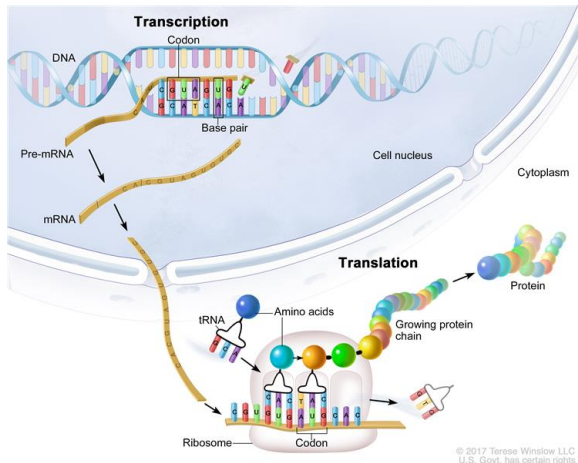


Figure: Transcription and translation [5].

Bioinformatics

Homework

Register to the following courses and bring yours certificated of accomplish:

- Introduction to Bioinformatics (6 hours)

References I



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NAU, “Dna structure,” http://www2.nau.edu/lrm22/lessons/dna_notes/dna_notes.html, 2020, accessed: 2020-03-20.



Wikicommons, “Chromosome-dna-gene,” <https://commons.wikimedia.org/wiki/File:Chromosome-DNA-gene.png>, 2020, accessed: 2020-03-20.

References II



NCI, “Nci dictionary of cancer terms,” <https://www.cancer.gov/publications/dictionaries/cancer-terms/def/transcription>, 2020, accessed: 2020-03-20.