

- Полимеры
- Белки
- Полисахариды
- Нуклеиновые кислоты
 - Рибонуклеиновая кислота
 - Дезоксирибонуклеиновая кислота
- Каучук

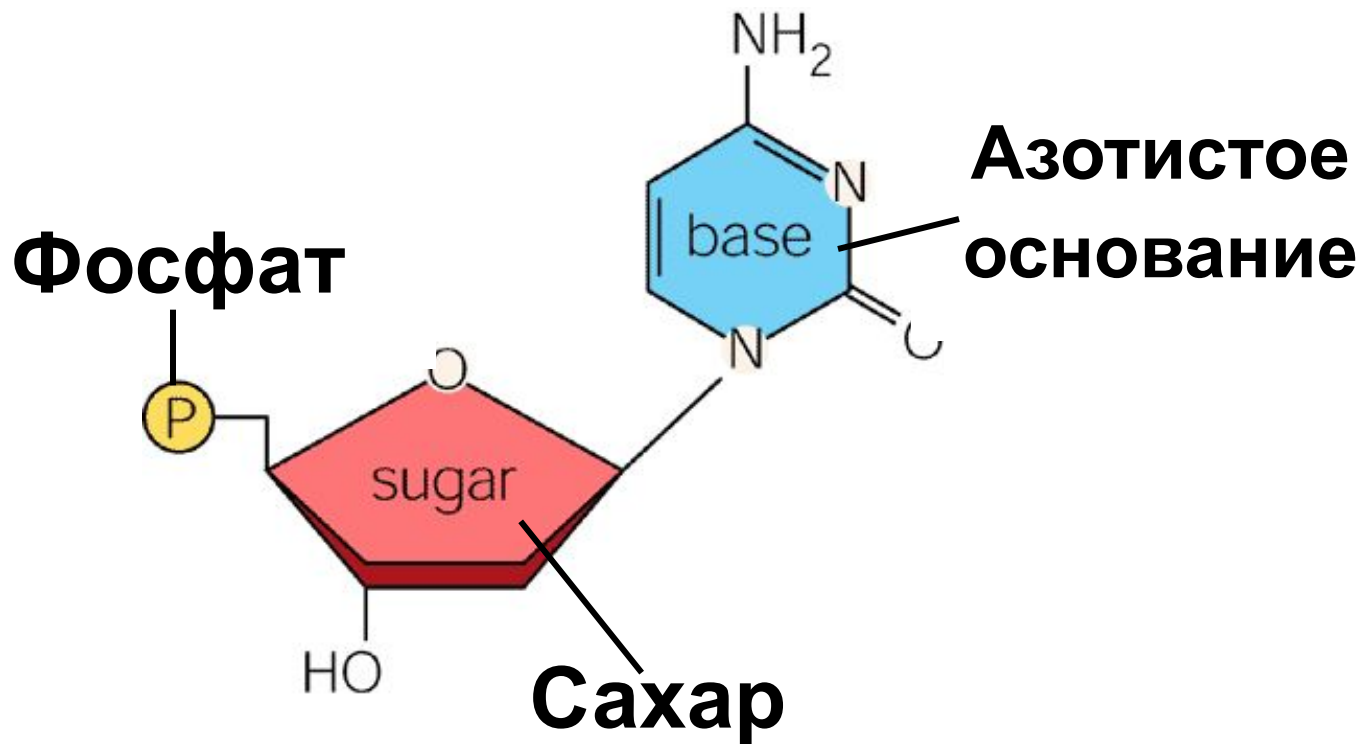
random][plasmid]

Chromatin structure and
DNA replication and
transcription are
regulated by the
interaction of DNA
with proteins called
histones. The DNA
is wrapped around
these histones to form
nucleosomes. The
histones are arranged
in a regular pattern
along the DNA, and
the DNA is held
together by the
histones. The
histones are
arranged in a
regular pattern
along the DNA,
and the DNA is
held together by
the histones.

Classically, DNA consists of two long polynucleotide
single strands called nucleotides, which are joined by
hydrogen bonds. The two strands are antiparallel, that is,
one runs in the 5' to 3' direction and the other in the
3' to 5' direction. The two strands are held together
by hydrogen bonds between the nitrogenous bases
of the two strands. The bases are arranged in a
regular pattern along the DNA, and the DNA is
held together by the hydrogen bonds.

When cells divide, DNA is replicated. In prokaryotes, DNA
is replicated in a single circular chromosome. In
eukaryotes, DNA is replicated in multiple linear
chromosomes. The DNA is replicated by the
action of DNA polymerase, which synthesizes
new DNA strands using the existing strands as
templates. The DNA is then packaged into
chromosomes by the action of histones and
other proteins. The DNA is held together by
hydrogen bonds between the nitrogenous bases
of the two strands.

Нуклеотиды



Нуклеотиды

Аденин

Гуанин

Тимин

Урацил

Цитозин

Chromatin is a complex of DNA and proteins. The DNA is packaged into a structure called chromatin. The DNA is wrapped around a core of histone proteins, forming a nucleosome. The nucleosome is the basic unit of chromatin. The DNA is then further packaged into a higher order structure called chromatin. The chromatin is then further packaged into a higher order structure called chromatin. The chromatin is then further packaged into a higher order structure called chromatin.

Classically, DNA consists of two strands of nucleotides. The two strands are held together by hydrogen bonds between the nitrogenous bases. The bases are adenine, thymine, guanine, and cytosine. The two strands are antiparallel to each other. The DNA is then further packaged into a higher order structure called chromatin. The chromatin is then further packaged into a higher order structure called chromatin.

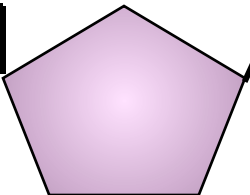
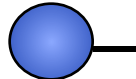
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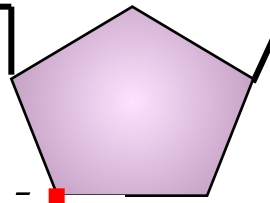
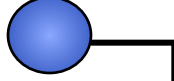
5' конец цепи

Направление роста

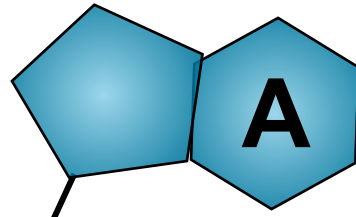
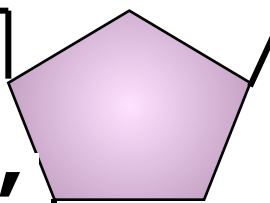
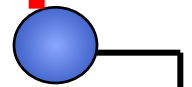
5'



Фосфодиэфирная
связь



Фосфодиэфирная
связь



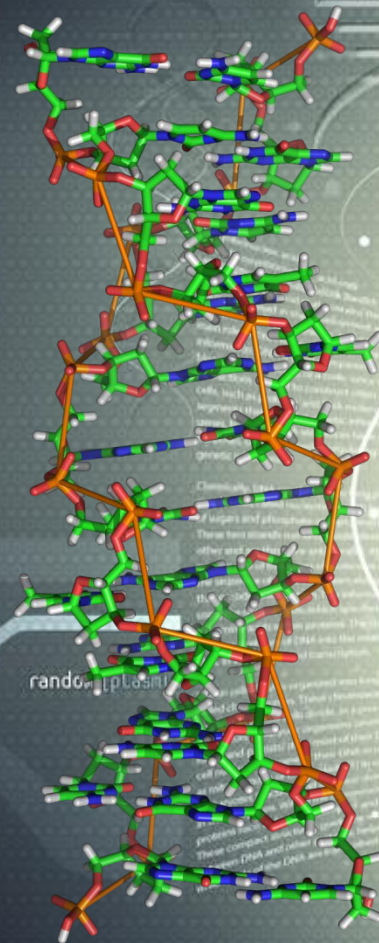
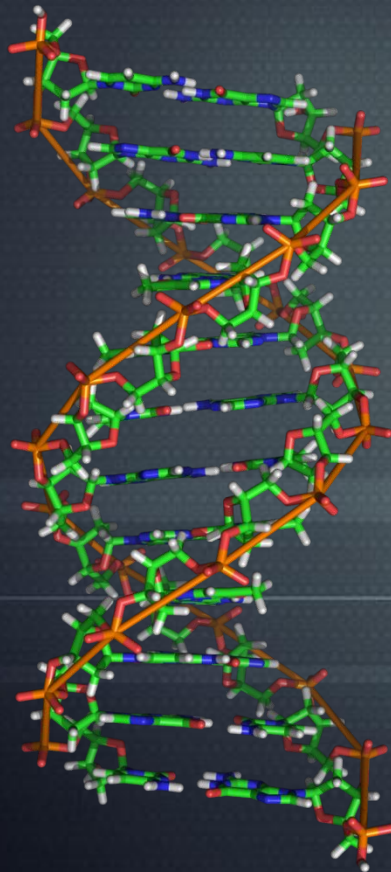
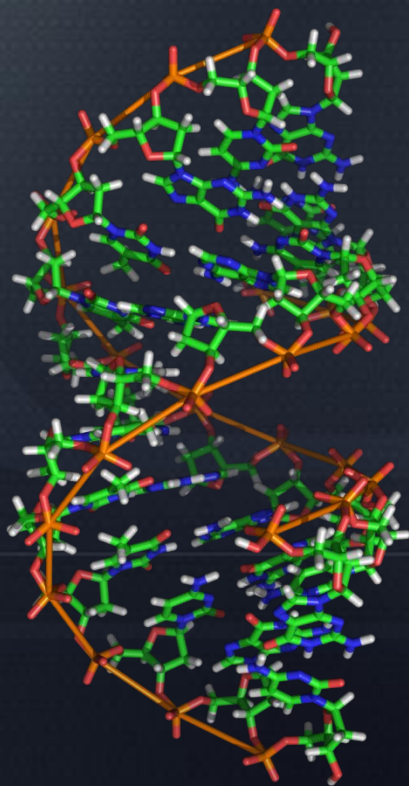
3' конец цепи

3'

ОН



ДНК



randomly placed

Принципы строения ДНК



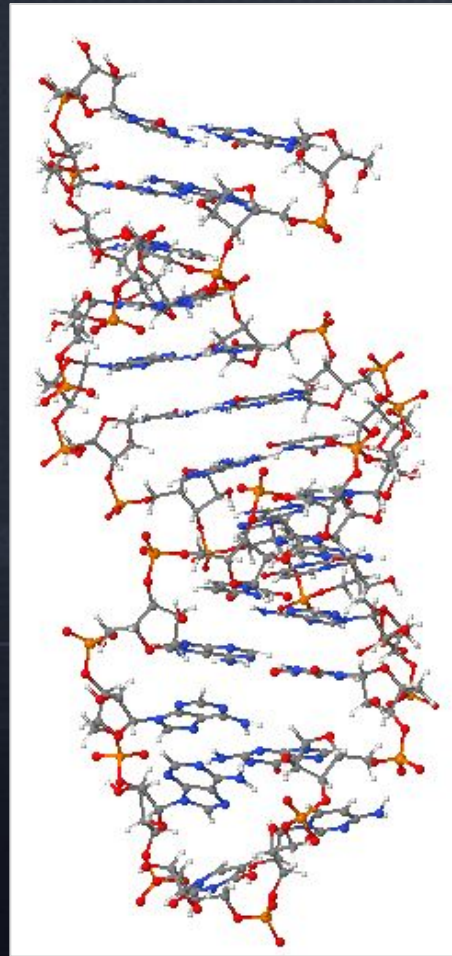
Нерегулярность

Двуцепочечность

Комплементарность

Антипараллельность

PHK



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Chemical structure and
DNA is a double helix structure composed of
two strands of deoxyribose sugar and phosphate
groups. The strands are connected by nitrogenous
base pairs. The main role of DNA is to store and
transmit genetic information. DNA is often compared to a
blueprint or a recipe for a cell. Some
instructions needed to produce other
cells, such as proteins, are DNA. The DNA
sequences that carry the genetic information
are called genes. Some DNA sequences are
non-coding, or are involved in other functions of the
genetic information.

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sugar and phosphate groups. The two strands
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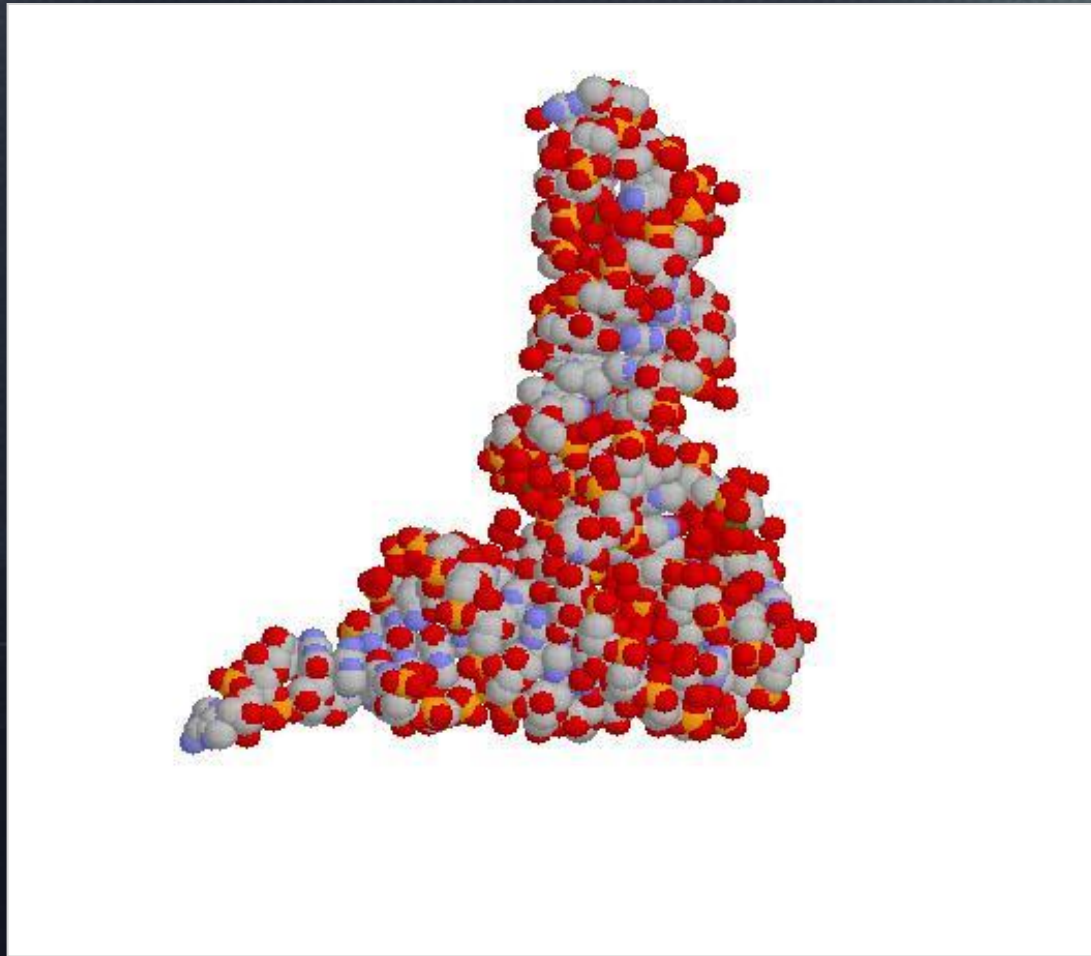
When cells, DNA is organized into long, thin
structures called chromosomes. These chromosomes
are duplicated before cells divide. In a process called
mitosis, Eukaryotic organisms possess a
nucleus, and proteins that bind to DNA inside the
cell nucleus and some of these DNA sequences are
located in mitochondria or chloroplasts. In some
prokaryotes, bacteria and archaea, DNA is located
in the cytoplasm, within the cell membrane.
These compact structures are called nucleosomes.
The compact structures are formed by interactions
between DNA and other proteins. Interactions
between DNA and other proteins, including histones,
which parts of the DNA are organized.

Виды РНК

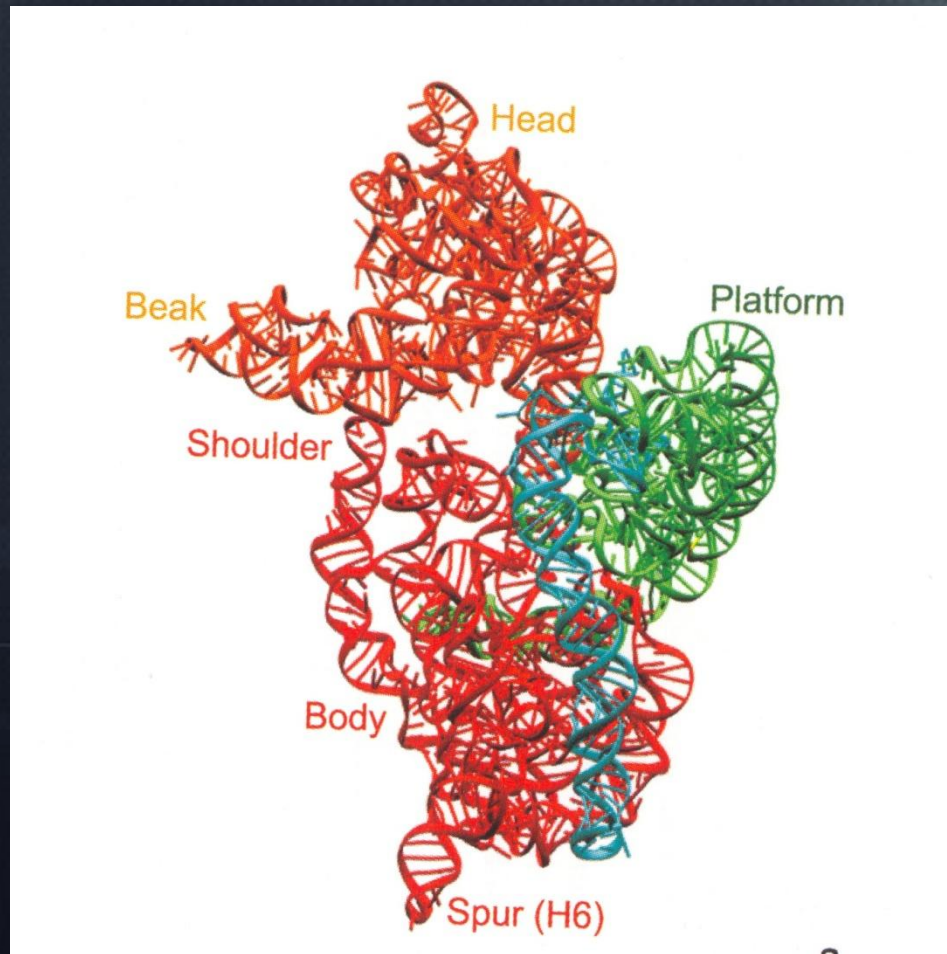
1. **и-РНК** = м-РНК информационная, матричная
до 10 тысяч нуклеотидов
2. **т-РНК** транспортная
около 100 нуклеотидов
3. **р-РНК** рибосомальная
2-3 тысячи нуклеотидов

random][pLasm1d

Транспортная РНК



Рибосомальная РНК



Genetic information is stored in DNA. DNA is a double helix structure. The main role of DNA is to store genetic information. DNA is often compared to a library. Instructions needed to produce other cells, such as proteins, are DNA. The DNA codes for the synthesis of proteins. The DNA codes for the synthesis of proteins. The DNA codes for the synthesis of proteins.

Classically, DNA consists of two strands of simple units called nucleotides. These two strands are antiparallel to each other and are therefore said to form a double helix. The strands are held together by hydrogen bonds between the nitrogenous bases. The bases are of two types: purines and pyrimidines. The purines are adenine, guanine, and cytosine. The pyrimidines are thymine, uracil, and cytosine. The bases are held together by hydrogen bonds. The bases are held together by hydrogen bonds.

When cells divide, DNA is replicated into two identical copies called chromosomes. In a process called DNA replication, Eukaryotes undergo several rounds of cell division. The DNA is held together by hydrogen bonds. The DNA is held together by hydrogen bonds. The DNA is held together by hydrogen bonds.



Функции РНК

1. Информационная: хранение информации (у части вирусов)
2. Каталитическая
3. Регуляторная

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When cells divide, DNA is replicated into two identical copies. These chromosomes are duplicated before cells divide. In a process called DNA replication, Eukaryotic organisms produce many copies of their DNA inside the cell nucleus and some of these copies are packaged into mitochondria or chloroplasts. In some cells, prokaryotes bacteria and archaea have their DNA in the cytoplasm, within the cell membrane. These compact DNA have unique structures. Between DNA and other proteins, forming nucleosomes, which parts of the DNA are wrapped.

Болезни

1. Наследственные заболевания.
2. Генные болезни.
3. Хромосомные болезни.

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Chromatin structure and
DNA replication and
transcription are
regulated by the
interaction of DNA
with proteins called
histones. The DNA
is packaged into
nucleosomes, which
are further organized
into higher order
structures. The
histones are
positively charged
and interact with
the negatively charged
phosphate groups of
the DNA backbone.
This interaction
stabilizes the DNA
structure and
prevents the DNA
from being
damaged. The
histones are also
involved in
regulating gene
expression.

Classically, DNA consists of two
strands of nucleotides, one
of which is the coding strand
and the other is the template
strand. The two strands are
antiparallel and are held
together by hydrogen bonds
between the nitrogenous
bases. The bases are
paired in a specific manner
that encodes information.
This information is used
to synthesize proteins. The
process of synthesizing
proteins from DNA is called
translation.

When cells divide, DNA is
replicated. This process
involves the synthesis of
new DNA strands using
the existing strands as
templates. In eukaryotes,
DNA replication occurs in
the nucleus. The DNA is
first unwound and then
replicated. The two new
DNA molecules are then
separated and each
molecule is packaged
into a chromosome. The
chromosomes are then
distributed to the daughter
cells. The process of
DNA replication is
highly accurate and
ensures that the genetic
information is passed
on to the next generation.

BY P. B. B. B. B.

