

## NUCLEIC ACIDS

Nucleic acids are the polymers of nucleotides

deoxyribonucleic acid (DNA) and ribonucleic acid are the 2 types of nucleic acids

though RNA acts as genetic material in some viruses mostly functions as a messenger

RNA acts as adapter, structural and in some cases catalytic molecule

DNA  $\xrightarrow{\text{(transcription)}}$  RNA  $\xrightarrow{\text{(translation)}}$

PROTEIN

## THE DNA

it is a long polymer of deoxyribonucleotides

its length is defined by the number of nucleotides or base pairs present

ex: bacteriophage has 5386 nucleotides  
bacteriophage lambda has 48502 nucleotides  
E. coli has 4.6 bp haploid content of  
human DNA is  $3.3 \times 10^9$  bp

## THE STRUCTURE OF POLYNUCLEOTIDE CHAIN

A nucleotide has 3 components :

~a nitrogenous base

~pentose sugar {ribose for RNA and deoxyribose for DNA}

~phosphate group

there are 2 types of nitrogenous groups

~purines

~pyrimidines

purine - adenine, guanine

pyrimidine - thymine, cytosine, uracil

*DNA contains thymine along with other nitrogenous bases whereas RNA contains uracil instead of thymine.*

this is obviously incomplete but I'll make sure to complete it asap for y'all  
love ya <3



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