

# DNA

DeoxyriboNucleic Acid

nucleotides

A G purine (R)  
C T pyrimidine (Y)  
pentose sugar, P, R/Y

5'-3' phosphodiester bonds

P- ... -OH  
5' ... 3'

two chains, H-bonded RY

antiparallel

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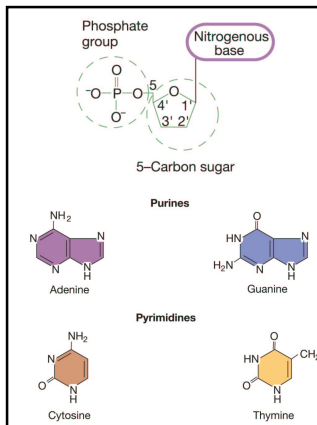
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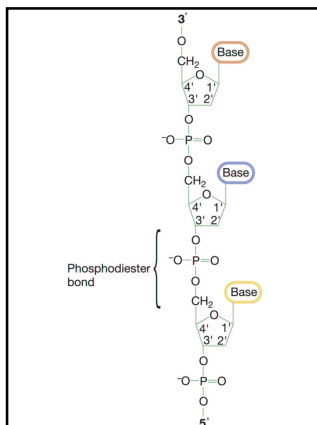
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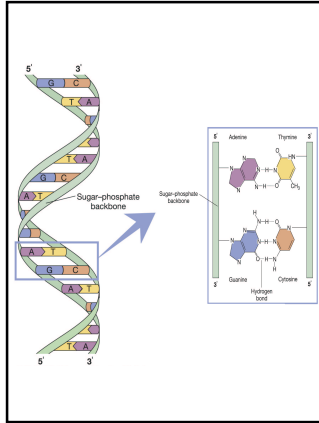
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**RNA**

**RiboNucleic Acid**

**nucleotides**

**A G purine (R)**  
**C U pyrimidine (Y)**  
 pentose sugar, P, R/Y

**5'-3' phosphodiester bonds**

**P- ... -OH**  
**5' ... 3'**

**single- or double-stranded**

**antiparallel**

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**NA**

**length**

**[nucleotides] ss**  
**[base pairs, bp] ds**

**OMES**

**genome: genetic**  
**transcriptome: transcripts**  
**proteome: proteins**

**GENES**

**protein-coding**  
**RNA-specifying**  
**untranscribed**

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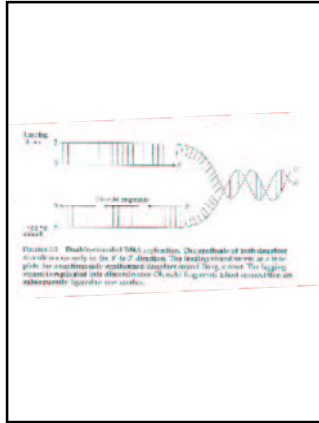
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**PROTEIN-CODING**

promoters (5' flanking)

TATA, CAAT, GC

terminators (3' flanking)

pre-messenger RNA

antisense & sense

mRNA

splicing  
5' capping,  
degradation  
3' polyadenylation

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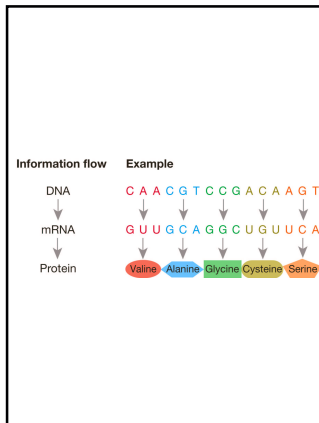
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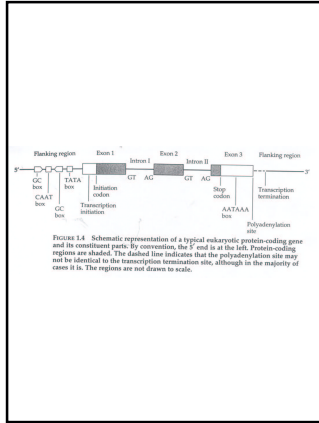
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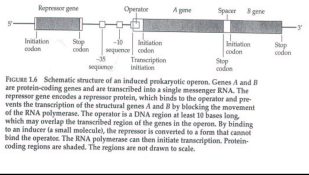
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## PROTEIN-CODING (2)

- introns
- exons
- untranslated regions
- operon




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## RNA-SPECIFYING

- transcribed
- untranslated

## RNA EDITING




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**UNTRANSCRIBED**

- replicator genes
- recombinator genes
- segregator genes
- attachment sites
- constructional sites
- telomeric sequences

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**RNA POLYMERASES**

- I: rRNA genes
- II: protein-coding genes
- III: tRNA genes

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