

Comparison of RNA with DNA

Characteristics	RNA (Ribonucleic Acid)	DNA (Deoxyribose Nucleic Acid)
<i>Sugar</i>	Ribose	Deoxyribose
<i>Nitrogenous bases</i>	Adenine (A) Guanine (G) Cytosine (C) Uracil (U) <i>Base Pairings</i> A U C G or U A G C	Adenine (A) Guanine (G) Cytosine (C) Thymine (T) <i>Base Pairings</i> A T C G or T A G C
<i>Number of nucleotides in typical molecule</i>	Varies from fewer than 10 nucleotides to about 50,000	Always more than 45 million
<i>Shape of molecule</i>	Varies from hydrogen bonding along the length of the strand; three main types (mRNA, rRNA, tRNA)	Paired strands coiled in a double helix
<i>Function</i>	Performs protein synthesis as directed by DNA	Stores genetic information that controls protein synthesis