

Chapter 1 Biological molecules

1.6 Nucleic Acids (核酸)

- Elements: C, H, O, N, P
- Functions:
 - DNA: store genetic information
 - RNA: build protein from genetic information

Nucleotide (核苷酸) structure

- Each nucleotide consists of three parts
 - a nitrogenous base (含氮碱基): adenine (A), guanine (G), thymine (T), uracil (U), and cytosine (C)
 - DNA: A, G, C, T
 - RNA: A, G, C, U
 - a pentose sugar (五碳糖)
 - DNA: deoxyribose
 - RNA: ribose
 - a phosphoric acid (磷酸)

Deoxyribonucleic acid (脱氧核糖核酸) (DNA) and ribonucleic acid (核糖核酸) (RNA)

	DNA	RNA
Monomer	Deoxyribonucleotide (脱氧核糖核苷酸)	Ribonucleotide (核糖核苷酸)
Pentose sugar	Deoxyribose sugar	Ribose sugar
Nitrogenous bases	A, G, C, T	A, G, C, U
Base pairing	A-T, G-C	A-U, G-C
Number of strands	Double-stranded	Single-stranded
Location	Nucleus	Manufactured in the nucleus but can be found in the cytoplasm