

# Organic Chemistry in Human Biology

Organic Chemistry · Practice Test · 10 Questions

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**1. Which functional group is primarily responsible for the polar nature of glucose, allowing it to dissolve in human blood plasma?**

- A) Carboxyl group
- B) Hydroxyl group
- C) Methyl group
- D) Amino group

**2. What is the primary organic building block of human hemoglobin, responsible for binding oxygen?**

- A) Lipid
- B) Carbohydrate
- C) Protein
- D) Nucleic acid

**3. Which essential fatty acid is classified as an omega-3 fatty acid crucial for human brain cell membrane fluidity?**

- A) Stearic acid
- B) Alpha-linolenic acid
- C) Oleic acid
- D) Palmitic acid

**4. In the human body, what is the chemical nature of the molecules that act as the primary long-term energy storage?**

- A) Triglycerides
- B) Monosaccharides
- C) Amino acids
- D) Steroid hormones

**5. Which nitrogenous base is found in RNA but is replaced by thymine in human DNA?**

- A) Cytosine
- B) Adenine
- C) Uracil
- D) Guanine

**6. What type of chemical bond links individual amino acids together to form the primary structure of human proteins?**

- A) Hydrogen bond
- B) Peptide bond
- C) Ionic bond
- D) Glycosidic bond

**7. Which steroid-derived molecule is a vital component of the human cell membrane and a precursor for vitamin D synthesis?**

- A) Cholesterol
- B) Testosterone
- C) Cortisol
- D) Progesterone

**8. What is the specific organic classification of enzymes like amylase that catalyze reactions in the human digestive system?**

- A) Carbohydrates
- B) Proteins
- C) Lipids
- D) Nucleic acids

**9. Which chemical structure is common to all standard amino acids found in human protein synthesis?**

- A) A benzene ring
- B) An alpha-amino group and a carboxyl group
- C) A long hydrocarbon chain
- D) A phosphate group

**10. Vitamin C (ascorbic acid) is essential for human health; what is its primary chemical property that allows it to act as an antioxidant?**

- A) It is a saturated hydrocarbon
- B) It acts as a reducing agent
- C) It is a heavy metal catalyst
- D) It is an insoluble lipid