

Milestones in Biochemistry

Biochemistry · Practice Test · 10 Questions

1. Which scientist is credited with the first isolation and identification of urea from urine, a pivotal step in establishing biochemistry as a distinct field?

- A) Antoine Lavoisier
- B) Friedrich Wöhler
- C) Jöns Jacob Berzelius
- D) Louis Pasteur

2. The discovery of the double helix structure of DNA by Watson and Crick in 1953 was heavily reliant on the X-ray diffraction data produced by which other scientists?

- A) Linus Pauling and Robert Corey
- B) Rosalind Franklin and Maurice Wilkins
- C) Erwin Chargaff and Erwin Negelein
- D) Arthur Kornberg and Severo Ochoa

3. Who proposed the 'Lock and Key' model for enzyme-substrate interaction, a fundamental concept in understanding enzyme catalysis?

- A) Emil Fischer
- B) James B. Sumner
- C) Hans Krebs
- D) Linus Pauling

4. The identification of the citric acid cycle (also known as the Krebs cycle) was a major breakthrough in understanding cellular respiration. Who is primarily associated with this discovery?

- A) Hans Krebs
- B) Fritz Lipmann
- C) Albert Szent-Györgyi
- D) Otto Warburg

5. Which biochemist's work on the chemical basis of nerve impulse transmission, particularly the role of acetylcholine, earned him a Nobel Prize?

- A) Otto Loewi
- B) Henry Dale
- C) Bernard Katz
- D) Wilhelm Feldberg

6. The synthesis of urea from inorganic compounds by Friedrich Wöhler in 1828 challenged the prevailing vitalism theory. This synthesis is considered a landmark event because it:

- A) Proved the existence of enzymes in living organisms.
- B) Demonstrated that organic compounds could be synthesized in a laboratory.
- C) Isolated the first antibiotic.
- D) Discovered the genetic code.

7. The discovery of messenger RNA (mRNA) and its role in protein synthesis is largely attributed to the work of:

- A) Francis Crick and James Watson
- B) Marshall Nirenberg and Heinrich Matthaei
- C) Arthur Kornberg and Severo Ochoa
- D) Rosalind Franklin and Maurice Wilkins

8. Who was the first to crystallize an enzyme (urease) and demonstrate that proteins could possess catalytic activity, challenging the notion that enzymes were not proteins?

- A) Emil Fischer
- B) James B. Sumner
- C) Friedrich Miescher
- D) Fritz Lipmann

9. The discovery of the chemical structure of steroids, including cholesterol, and their relationship to hormones was significantly advanced by the research of which Nobel laureate?

- A) Linus Pauling
- B) Adolf Butenandt
- C) John Kendrew
- D) Max Perutz

10. In the early 20th century, which scientist pioneered the use of chromatography for the separation and analysis of biomolecules, a technique that revolutionized biochemical research?

- A) Marie Curie
- B) Mikhail Tsvet
- C) Theodor Svedberg
- D) Arne Tiselius