

# Chem 352, Fundamentals of Biochemistry

## Lecture 12: DNA Replication and Repair

### Supplemental Questions

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1. Describe in detail how DNA replication occurs.
  - a. What is an *Okazaki fragment*?
  - b. What is a *replisome*?
  - c. Describe what the term *processive* means and how does it apply to DNA replication.
2. For what discovery did Arthur Kornberg receive the 1959 Nobel Prize in Medicine?
3. Describe the roles played by DNA polymerases I, II, and III
  - a. In addition to polymerase activity, some of the nucleases also have exonuclease activity. What are some purposes for this activity?
4. Describe in detail Sanger's dideoxy method for sequencing DNA.
5. Describe how neighboring thymine bases in a DNA molecule can lead to mutation.
  - a. What tools does a cell have to prevent this from happening?