Name: Adogu Tami Negro

Dept. MLS

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1. HIGHLIGHT THE STEPS OF DNA REPLICATION
2. Initiation
3. Elongation
4. Termination
5. OUTLINE THE FUNCTIONS OF DNA REPLICATION ENZYMES
6. **Single-Stranded Binding Protein (SSBP)**

* Single-stranded binding proteins bind to and stabilize single-stranded DNA during DNA replication until the single-stranded DNA can be used as a template for a new strand to bind to.
* It also prevents re-annealing in the replication process.

1. **DNA Helicase**

A “Helicase” is an enzyme that separates the strands of DNA usually the hydrolysis of ATP to provide the necessary energy.

**3. Topoisomerases**

It is an enzyme that can change the linking number (LK)

#### a) Type-I Topoisomerases:

This act by transiently breaking one of the two DNA strands, rotating one of the ends of the unbroken strand, and rejoining the broken ends; they change linking number in increments of 1.

#### **b) Type-II Topoisomerases:**

The enzyme breaks both DNA strands and changes linking number in increments of 2

**4. DNA Primase**

* Primase **catalyzes the synthesis of a short RNA** (or DNA in some organisms) segment called a primer complementary to an ss DNA template.

**5. DNA Ligase**

It creates a phosphodiester bond between the 3’ end of one DNA segment and the 5’ end of another