

Table D4 The subunits of DNA polymerase III from *Escherichia coli*

Subunit	$M_r$	Activity
$\alpha$	140 000	Polymerizing
$\eta$	27 000	3'-5' exonuclease
$\epsilon$	27 000	3'-5' exonuclease
$\theta$	10 000	core
$\beta$	37 000	Required for processivity
$\tau$	78 000	
$\gamma$	52 000	
$\delta$	32 000	
$\delta'$	32 000	

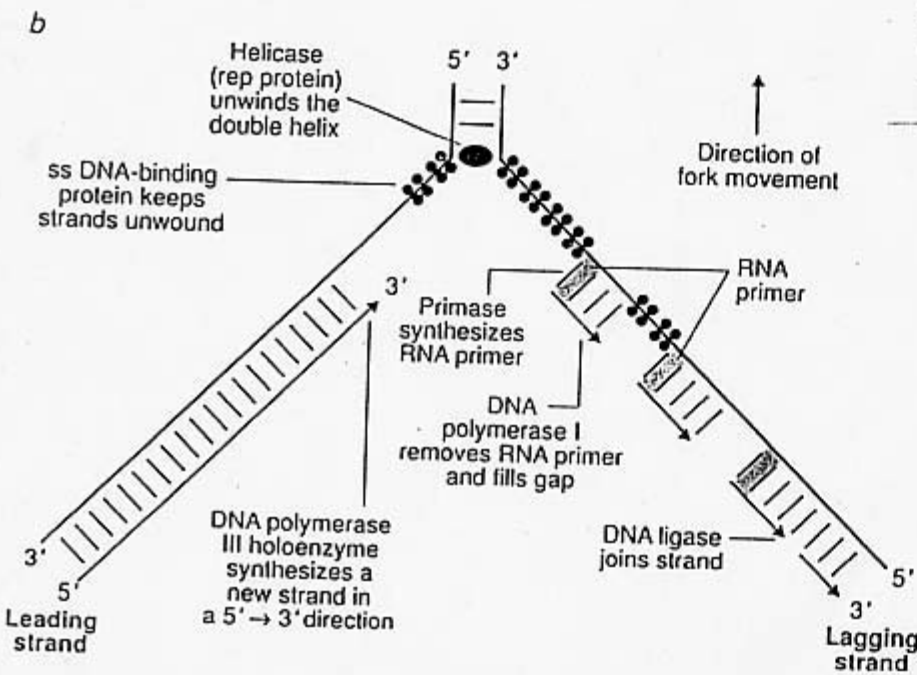


Fig. D22 a, As replication forks diverge from an origin of replication, the one new DNA strand is synthesized continuously (the leading strand), while the other is synthesized discontinuously in Okazaki fragments. Numbers indicate the order in which fragments are synthesized. b, Schematic diagram of events at the replication fork.

Table D6 Examples of replication proteins

Replication protein	Activity
DNA polymerases	Polymerize DNA strands
DNA helicases	Unwind the two stands of a DNA duplex
DNA topoisomerases	Relax torsional strain
Single-strand DNA-binding proteins	Stabilize unwound single strands
Origin-binding proteins	Bind and locally unwind origins of replication
Primases	Synthesize short RNA primers to initiate DNA synthesis
Ligases	Ligate fragments of DNA