



Phi29 DNA Polymerase

Bacteriophage Phi29

Phi29 DNA Polymerase

Phi 29 DNA Polymerase, exhibiting pronounced strand displacement activity.

Cat. No.	Size
E1401-01	250 units
E1401-02	1250 units

Description:

Phi29 DNA Polymerase catalyzes a highly processive DNA synthesis (up to 70,000 base insertions per binding event) coupled to strand displacement activity (1). It possesses an inherent 3'-5' exonuclease activity (2), acting preferably on single stranded DNA.

Unit Definition: One unit is the amount of enzyme required to convert 0.5 pmol of dTTP into acid-insoluble form in 10 min at 30°C.

Storage Conditions:
Store at -20°C

Component	Cat. No. E1401-01 250 U	Cat. No. E1401-02 1.250 U
Phi29 DNA Polymerase [10 U/μl]	25 μl	125 μl
[10x] Phi29 DNA Pol Reaction Buffer	100 μl	1 x 500 μl
[100x] BSA, non-acetylated (20 mg/ml)	10 μl	50 μl

10x Phi29 DNA Polymerase Reaction Buffer:

50 mM Tris-HCl, 100 mM (NH₄)₂SO₄, 40 mM dithiothreitol (DTT), 100 mM MgCl₂, pH7.5 @ 25°C .

Notes:

1. DTT contained in the reaction buffer degrades over time. It is recommended to supplement 10x reaction buffer after a period of 6 months with 1 M DTT to a final concentration of 40 mM (in 10x reaction buffer).
2. It is recommended to supplement reaction buffer with 0,2 mg/ml non-acetylated BSA (molecular biology grade).

References:

1. Blanco L. Et al., *J. Biol. Chem.*, 264, 8935-8940
2. Garmendia C. Et al. (1992), *J. Biol. Chem.* 267, 2594-2599