

Phi29 DNA Polymerase

CATALOG NO.: M1239-1000
AMOUNT: 1000 U (100 µl)
CONCENTRATION: 10 U/µl
FORM: Liquid
SOURCE: Recombinant *E. coli*

KIT COMPONENTS:

Components	Volume	Part No.
Phi29 DNA Polymerase (10 U/µl)	100 µl	M1239-1000-1
5X Phi29 DNA Polymerase Reaction Buffer	500 µl	M1239-1000-2

DESCRIPTION: Phi29 DNA Polymerase is a highly processive polymerase which exhibits a strong strand-displacement function. These functions allow for highly efficient isothermal amplification of circular or linear DNA templates via rolling circle amplification (RCA), multiple displacement amplification (MDA) and/or whole genome amplification (WGA). Phi29 DNA Polymerase has extremely high-fidelity due to its inherent 3'→5' exonuclease activity and can amplify from very small amounts of starting templates.

APPLICATIONS:

- Rolling circle amplification (RCA)
- Multiple displacement amplification (MDA)
- Whole genome amplification (WGA)
- DNA template preparation for sequencing
- Protein-primed DNA amplification

ENZYME STORAGE BUFFER: 50 mM Tris-HCl (pH 7.5), 0.1 mM EDTA, 1 mM DTT, 100 mM NaCl, 0.5% Tween-20, 0.5% NP-40 and 50% (v/v) Glycerol

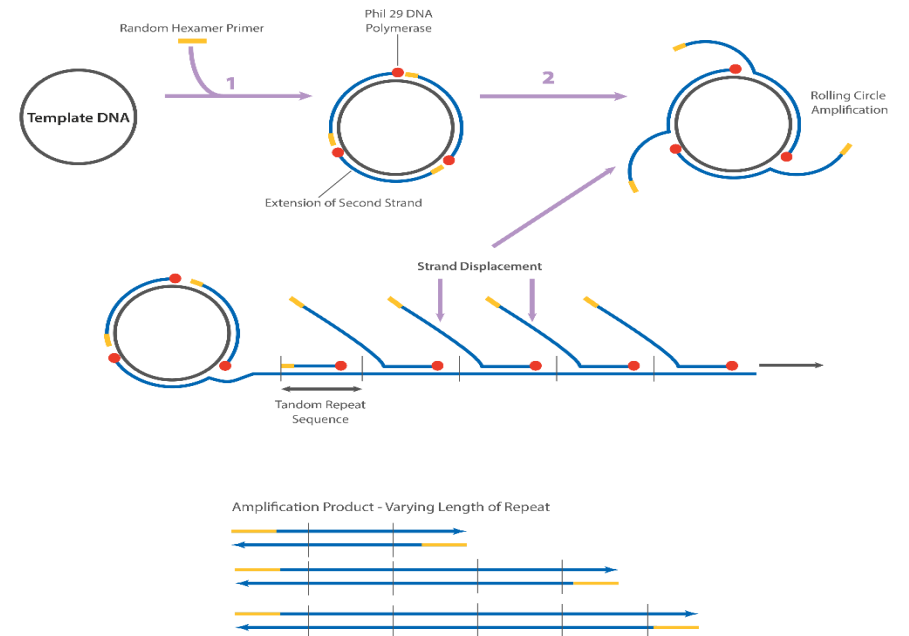
ENZYME UNIT DEFINITION: One unit is defined as the amount of Phi29 DNA Polymerase that is required to incorporate 0.5 pmol of dNTP into acid insoluble material in 10 minutes at 30°C.

REACTION CONDITIONS: Use 1X Phi29 DNA Polymerase Reaction Buffer, supplement with 200 µg/ml BSA (not included) and 50 µM of your primer (this can be a random hexamer primer or gene specific primer - the final concentration may require optimization for your individual study). Incubate at 30°C for at least 4 hours.

5X PHI29 DNA POLYMERASE REACTION BUFFER COMPONENTS: 250 mM Tris-HCl, 50 mM MgCl₂, 50 mM (NH₄)₂SO₄, 20 mM DTT, 2 mM dNTP, pH 7.5.

HEAT INACTIVATION: 65°C for 10 minutes or 70°C for 5 minutes

STORAGE CONDITIONS: Store at -20°C. Avoid repeated freeze-thaw cycles of all components to retain maximum performance. All components are stable for one year from the date of shipping when stored and handled properly.



RELATED PRODUCTS:

- Ready™ DNA Polymerase (Cat# M1146)
- Robust Ready™ DNA Polymerase (Cat# M1147)
- Breeze™ DNA Polymerase (Cat# M1148)
- Fire Start™ DNA Polymerase (Cat# M1149)
- Distant™ DNA Polymerase (Cat# M1150)
- Advance™ DNA Polymerase M1151-250
- Outstretched™ DNA Polymerase (Cat# M1152)
- Blood Advance™ DNA Polymerase (Cat# M1153)
- Image Green™ 100 bp DNA Marker (Cat# M1155)

FOR RESEARCH USE ONLY! Not to be used on humans.