phi29 DNA Polymerase, 10 U/µl

LOT: See product label

EXPIRY DATE: See product label

ORDERING INFORMATION

CAT. NO.	SIZE	PACKAGE CONTENT
BR1100101	250 U	25 µl phi29 DNA Polymerase 250 µl 10× phi29 Reaction Buffer
BR1100102	1000 U	4 × 25 µl phi29 DNA Polymerase 4 × 250 µl 10× phi29 Reaction Buffer

COMPONENT	COMPOSITION
phi29 DNA Polymerase	phi29 DNA Polymerase, 10 U/µl, in storage buffer containing 50% (v/v) glycerol.
10× phi29 Reaction Buffer	Optimized 10× phi29 reaction buffer.
STORAGE	-20°C (until expiry date – see product label)

FEATURES

- Huge DNA yields, accurate amplification
- Highest processivity DNA polymerase with exceptionally strong strand displacement activity
- Exceptionally pure phi29 DNA Polymerase for demanding applications

APPLICATIONS

- Rolling circle amplification
- Multiple displacement amplification
- Whole genome amplification
- Protein-primed and RNA-primed DNA amplification

DESCRIPTION

biotechrabbit™ phi29 DNA Polymerase is an exceptionally pure DNA polymerase for demanding applications. The enzyme is purified from a recombinant *E. coli* strain carrying the phi29 DNA Polymerase gene from bacteriophage phi29.
The enzyme is a highly processive DNA polymerase (up to 70,000 base insertions per binding event) with a powerful strand-displacement activity and a 3' → 5' proofreading exonuclease function.
phi29 DNA Polymerase proofreading activity acts preferentially on single-stranded DNA or RNA. Therefore, to avoid primer degradation during the DNA synthesis, 3' modified (protected) primers are highly recommended.

REFERENCES

1. Blanco, L., et al. (1989) J. Biol. Chem., 264, 8935–8940.
2. Garmendia, C., et al. (1992) J. Biol. Chem., 267, 2594–2599.
3. Skerra, A., (1992) Nucleic Acids Res., 20, 3551–3554.
4. Blanco, L., and Salas, M., (1984) Proc. Natl. Acad. Sci. USA, 81, 5325–5329.
5. Lizardi, P.M., et al. (1998) Nat. Genet., 19, 225–232.
6. Dean, F.B., et al. (2002) Proc. Natl. Acad. Sci. USA, 99, 5261–5266.
7. Simmel, F.C., et al. (2005) Nano Lett., 5, 719–722.
8. Blanco, L., et al. (1994) Proc. Natl. Acad. Sci. USA, 91, 12198–12202.
9. Lagunavicius, A., et al. (2009) RNA, 15, 765–771.
10. Esteban, J.A., et al., (1993) J. Biol. Chem., 268, 2719 -2726.

APPLICATION RECOMMENDATION

- Refer to the public articles for recommendations and protocols.
- Use of this enzyme in certain applications may be covered by patents and may require a license. Refer to the public articles for recommendations and protocols.
- The enzyme is heat inactivated by incubation at 65°C for 10 minutes.

CERTIFICATE OF ANALYSIS

Unit Definition
One unit is defined as the amount of polymerase required to convert 0.5 pmol of dTTP into acid insoluble material in 10 minutes at 30°C.

Quality Control

Protein Purity
Protein purity is analyzed by SDS polyacrylamide gel electrophoresis.

Exonuclease Activity
Linearized lambda/HindII fragments are incubated with the enzyme in a 50 µl reaction mixture for 4 h at 37°C. No degradation of DNA was observed.

Endonuclease Activity
lambda DNA is incubated with the enzyme in a 50 µl reaction mixture for 4 h at 37°C. No degradation of DNA was observed.

Nick Activity
Supercoiled plasmid DNA is incubated with the enzyme in a 50 µl reaction mixture for 4 h at 37°C. No conversion of covalently closed circular DNA to nicked DNA was detected.

Contamination with *E. coli* DNA
A sample of denatured enzyme is analyzed with specific primers targeting the 16S rRNA gene in qPCR for the presence of contaminating *E. coli* DNA. No *E. coli* DNA was detectable.

Quality confirmed by: Head of Quality Control

SAFETY INSTRUCTIONS
For safety instructions please see Safety Data Sheets (SDS)/Sicherheitshinweise finden Sie in den SDS unter: http://www.biotechrabbit.com/support/documentation.html.

USEFUL HINTS
- Visit Applications at www.biotechrabbit.com for more products and product selection guides.
- Most biotechrabbit products are available in custom formulations and bulk amounts.

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