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Technical **Data Sheet**

Takyon™ DNA polymerase, 100u
CS-CKIT-PROD19009

Eurogentec products are sold for research or laboratory use only and are not to be administrated to humans.

Source

Purified from *E.coli* incorporating a *Thermus aquaticus* DNA polymerase overexpressing plasmid.

Description

Takyon DNA polymerase is a modified Taq polymerase, harboring an added DNA binding domain for improved speed (FAST cycling) and processivity. The Takyon™ DNA polymerase lacks any activity before activation, avoiding non-specific priming at low temperature. It requires a 3 minutes activation step at 95°C to reach maximal initial activity. It is recommended for qPCR use.

Quality control

Each lot is tested by qPCR analysis in duplex on a Roche LightCycler® 480 using 30ng, 3ng and 0.3ng of Human DNA (Sigma Cat No. D7011) and mitochondrial Forward and Reverse primers and probe.

Package contents

Reagent	Volume	Description
Takyon Taq Clear cap vial	20 µl	Polymerase at 5 U / µl
10x reaction buffer Black cap vial	1 x 1.5 ml	The 10X reaction buffer contains KCl and Tris-HCl Stabilizers
MgCl2 Clear cap vial	1 x 0.6 ml	25 mM

Shipping conditions

Shipping at ambient temperature has no detrimental effect on the performance of this enzyme (if lower than 35°C).

Storage conditions

For long term storage the Takyon™ DNA polymerase should be stored at a temperature between -15 °C and -25 °C in a constant temperature freezer. When stored under these conditions, the enzyme is stable for 24 months. For short term storage the Takyon™ DNA polymerase can be stored at 4 °C for 6 months.

Storage & Dilution buffer

100mM KCl, 20mM Tris-HCl (pH 8.0), 0.1mM EDTA, 1mM DTT, 0.5% (v/v) Tween 20, 0.5% (v/v) Nonidet P40, 50% Glycerol.

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Associated activities

The enzyme has 5'-3' polymerization-dependent exonuclease replacement activity but lacks 3'-5' exonuclease activity. The enzyme has "extendase activity", allowing TA Cloning.

Unit definition

One unit is defined as the amount of enzyme that incorporates 10 nmoles of dNTPs into acid- insoluble form in 30 minutes at 72°C under the analysis conditions.

Reaction Conditions

Thaw all required reagents completely and put them on ice. Mix all reagents well by inversion and spin them down prior to pipetting.
Use the provided reaction buffer for optimal performance. Buffer volume should represent 1/10th of final reaction volume.
Add MgCl2 to a final concentration of 4.5 mM, with a typical range between 2.5 to 5.5 mM for qPCR applications.
Use from 0.5u to 1.5u of polymerase per reaction.
dNTPs are usually used at a final concentration of 200µM.

Cycling conditions

Takyon™ activation	3 min. 95°C *
Cycling x 40	
Denaturation	95°C see below **
Annealing & Extension	15"-30" @primer Tm ***

** No amplification will occur without this activation step at 95°C*

*** Time and temperature for denaturation step depend on the type of template. Complex templates like e.g. plant genomic DNA require longer denaturation steps, whilst pure, simple templates like e.g. plasmids will require only a few seconds. We advise that you check primer design using primer design software*

**** Annealing-extension time should not exceed 30" in qPCR application involving short amplicons. For PCR, adapt as required. Annealing temperature should be adapted to primer Tm +/- 2°C*

This data is intended for use as a guide only; conditions will vary from reaction to reaction and may need optimization.

Related products

Reagent	Package size	Reference
Takyon qPCR & RT-qPCR mastermixes	150 to 7500 rxn & Bulk packaging	Please enquire
Takyon Dry mastermixes	50 rxn lyophilized bottles	Please enquire

For further information please contact our Customer Help Desk:
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CS-CKIT-PROD19009-1019 V1