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DATA SHEET

Version: 2
Revision date: 17/02/2023

1. Identification

Product name **Horse-Power Taq DNA polymerase**
(5 U/µl) 500U

Cat. No **P0023**

2. Description

Horse-Power Taq DNA polymerase is a thermostable recombinant enzyme produced in an E. coli strain that carries the cloned pol gene from Thermus aquaticus. The enzyme has 5'→3' polymerase activity and a weak 5'→3' exonuclease activity but no 3'→5' exonuclease activity (proofreading).
Unit definition: one unit is defined as the amount of enzyme required to catalyse the incorporation of 10 nanomoles of dNTPs into acid-insoluble material in 30 minutes at 74 ˚C.

3. Composition

Item	Quantity
Horse-Power Taq DNA polymerase (5U/µL)	100 µL
10X PCR Buffer	1.5 mL
25mM MgCl2 Solution	1.5 mL

4. Features

Molecular Weight: 94 kDa.

- Thermostable (half-life at 94 °C is 40 minutes).
- Adds extra nucleotides (preferentially adenine) without template at 3´ends leaving 3´overhangs PCR fragments. This fact allows the popular TA-cloning or GC cloning.
- Incorporates modified nucleotides (biotinylated, fluorescently labelled, etc).

Quality:

- Functionally tested in PCR.
- Undetected bacterial DNA (by PCR).
- Undetectable nucleases activity (endo-, exo- and ribonucleases).

5. Storage specifications

- Store at -20° C

6. Applications

- Routine amplifications.
- Colony screening (see Red-Taq DNA polymerase).
- Amplifications up to 5 kb using plasmid, viral or genomic DNA as template.
- PCR fragments amplification for TA or GC cloning (preferably use a proofreading polymerase for cloning purposes combined with an efficient blunt cloning vector)

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7. Further information

Product Use Limitation This product is developed, designed and sold exclusively only for research purposes use. The product was not tested for use in diagnostics or for drug development, nor is it suitable for administration to humans or animals.

Disclaimer The information provided in this Data Sheet is correct to the best of our knowledge and belief at the date of publication. This information is intended only as a guide and should not be taken as a warranty or quality specification. Canvax Reagents S.L.U. shall not be held liable for any damage resulting from handling or from contact with the above product.

Assay conditions

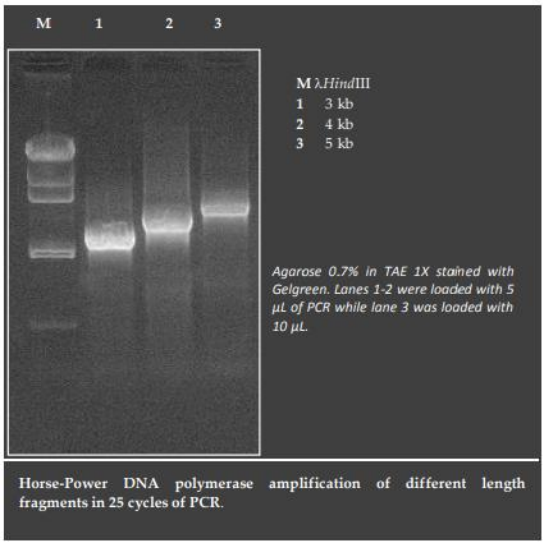
25 mM Tris-HCl pH 9.0 at 25 ˚C, 50 mM KCl, 2 mg MgCl2, 0.1 mg/mL gelatine, 200 µM dATP, dGTP, dTTP, 100 µM [α32-P] dCTP (0.05 µCi/nmol) and 12.5 µg activated salmon sperm DNA.

RECOMMENDED PCR ASSAY (20µL assay)

Components	Volume	Final con.
10X PCR buffer	2 µL	1X
MgCl2 25mM	2 µL	2.5 mM
dNTPs 8mM mix	2 µL	0.8 mM
Primer Forward (15mM)	1 µL	0.75 µm
Primer Reverse (15mM)	1 µL	0.75 µm
Template DNA	0.2-10 µL	1.75-2.50 ng/µL
Horse-Power Taq DNA polymerase (5 U/µl)	0.2 µL	0.05 U/µL
Autoclaved distilled water	to 20 µL	-

Cycling instructions:

- 94 ºC 5:00, 25-30x (95 ºC 0:30, Tm 0:30, 72ºC 1'/kb)
- 72 ºC 10:00
- 4 ºC ∞



Horse-Power DNA polymerase amplification of different length fragments in 25 cycles of PCR.