

x-VITA™ Taq Polymerase for PCR (2x)

TAQP-S05-001

Description

x-VITA™ 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).

Features and applications

- ✓ 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)
- ✓ Routine amplifications
- ✓ Colony screening
- ✓ Amplifications up to 5 kb using plasmid, viral or genomic DNA as template

Assay conditions

25 mM Tris-HCl pH 9.0 at 25 °C, 50 mM KCl, 2 mM MgCl₂, 0.1 mg/mL gelatine, 200 μM dATP, dGTP, dTTP, 100 μM [α 32-P] dCTP (0.05 μCi/nmol) and 12.5 μg activated salmon sperm DNA.

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.

Quality Certifications

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

Storage

Store at -20°C.

Product use limitation

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

Recommended PCR assay (20 µl assay)

Components	Volume	Final concentration
10X PCR buffer	2 µL	1X
MgCl ₂ 25 mM	2 µL	2.5 mM
dNTPs 8 mM mixture	2 µL	0.8 mM
Primer Forward (15 mM)	1 µL	0.75 µM
Primer Reverse (15 mM)	1 µL	0.75 µM
Template DNA	0.2-10 µL	1.75-2.5 ng/µL
x-VITA™ Taq DNA polymerase (5 U/µL)	0.2 µL	0.05 U/µL
Autoclaved distilled water	to 20 µL	-

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

