Technical Data Sheet

GENERAL INFORMATION

PRODUCT	*Taq* DNA Polymerase, expressed in yeast.
Cat. No.	MT01U-S1TAQPXA
UNITS	1,000 U
DESCRIPTION	*Taq* DNA Polymerase is a highly thermostable DNA Polymerase from the thermophilic bacterium *Thermus aquaticus*. This enzyme catalyzes the synthesis of new DNA strands by adding nucleotides in the 5' → 3' direction; while it lacks 3'→5' exonuclease activity. In addition, *Taq* Polymerase exhibits deoxynucleotidyl transferase activity, which frequently results in the addition of extra adenines at the 3'-end of PCR products. *Taq* DNA Polymerase withstand high temperatures, making it suitable for PCR amplification in thermocycling processes. Thi product is free from *E. coli* DNA contaminants.

PRODUCTS PROVIDED

Component		Amount
01U-S1TAQPXA	*Taq* DNA Polymerase.	1 vial x 100 µL
BTAQPXA	10X *Taq* DNA Polymerase Reaction Buffer.	1 vial x 1.5 mL

DELIVERY CONDITIONS

01U-S1TAQPXA	100 µL of *Taq* DNA Polymerase at 10 U/µL in 20 mM Tris pH 7.5, 300 mM KCl, 0.1 mM EDTA, 1 mM DTT, 0.05% Tween-20, 50% glycerol.
BTAQPXA	1.5 mL of 200 mM Tris pH 8.8, 250 mM KCl, 15 mM $MgCl_2$, 10 mM DTT, 0.1% Tween-20, 5 mg/mL rBSA.
SHIPPING CONDITIONS	This product requires cold shipment conditions. Store the protein in a -20 °C to -80 °C range upon arrival.
STORAGE CONDITIONS	Store at a temperature range from -20 °C to -80 °C for medium and long term. Storage at 4 °C is possible for short term. Avoid multiple freeze/thaw cycles by storing multiple aliquots.

Levprot Bioscience, S.L.U.
Polígono Industrial La Charluca, Calle C,
Parcela M 10-11
50300 Calatayud, Zaragoza (Spain)
Tel. (+34) 976198404
support@levprot.com
www.levprot.com

ADDITIONAL INFORMATION

ACTIVITY UNIT DEFINITION

One unit of activity is defined as the amount of enzyme needed to incorporate 15 nmol of dNTPs (deoxyribonucleotides) into a DNA fragment, in 30 minutes at 72 °C.

RECOMMENDED REACTION CONDITIONS

1. Gently vortex and briefly centrifuge all solutions.
2. Prepare the following mix on ice.

Component	**Final concentration**
10X *Taq* DNA Polymerase Reaction Buffer	1X
dNTPs, 10 mM each	0.2 mM each dNPT
10 µM Forward Primer	0.1-1 µM
10 µM Reverse Primer	0.1-1 µM
Template DNA	<0.5 µg/50 µL
Taq DNA Polymerase	5 U/50 µL
Nuclease-free water	To 50 µL

3. Transfer tubes from ice to a PCR machine with a preheated lid to 95 °C. If using a thermocycler without a heated lid, overlay the reaction mixture with mineral oil to prevent evaporation.
4. Perform PCR using recommended thermal cycling conditions:

Step	**Temperature**	**Time**	**Number of cycles**
Initial denaturation	95 °C	3 min	1
Denaturation	95 °C	30 s	25-35
Annealing	42-65 °C*	30 s	
Extension	72 °C	1 min/kb	
Final extension	72 °C	5 min	1

*Annealing temperature should be optimized for each primer set based on primer T_m.

Levprot Bioscience, S.L.U.
Polígono Industrial La Charluca, Calle C,
Parcela M 10-11
50300 Calatayud, Zaragoza (Spain)
Tel. (+34) 976198404
support@levprot.com
www.levprot.com

QUALITY CONTROL

Taq DNA POLYMERASE ACTIVITY

Taq DNA Polymerase activity is measured for each batch to verify that the resulting units are the same to the reference units, with an accepted 8% deviation.

E. coli DNA CONTAMINATION

5 U of *Taq* DNA Polymerase is screened for the presence of the specific gene *ybbW* from *Escherichia coli.*[1] A C_q value higher than 35 is accepted.

[1]Walker, David I., *et al*. "A highly specific *Escherichia coli* qPCR and its comparison with existing methods for environmental waters." *Water research* 126 (2017): 101-110.

TECHNICAL SUPPORT

If you have any questions, feel free to contact us at
support@levprot.com

Consult the Safety Data Sheet for information regarding hazards and safe handling practises.

THIS PRODUCT IS INTENDED FOR RESEARCH USE ONLY.

DATE 16/05/2025
REVISION 05

Levprot Bioscience, S.L.U.
Polígono Industrial La Charluca, Calle C,
Parcela M 10-11
50300 Calatayud, Zaragoza (Spain)
Tel. (+34) 976198404
support@levprot.com
www.levprot.com