

Product Information Sheet

Product Name: Taq DNA Polymerase with 10X Reaction (No MgCl₂) Buffer*

Concentration: 5U/μl

Ordering Information:

Item Number	Units	Number of tubes	Total Volume
SS-TP-NM-25	25	Taq DNA Polymerase – 25 units (1), 10X Reaction (No MgCl ₂) Buffer - 0.25mL (1), 25mM Magnesium Chloride – 0.25ml (1)	Taq DNA Polymerase - (5μL), 10X Reaction (No MgCl ₂) Buffer-(0.25mL), 25mM Magnesium Chloride-(0.25mL)
TP-NM-100	100	Taq DNA Polymerase - 100 units (1), 10X Reaction (No MgCl ₂) Buffer - 1ml (1), 25mM Magnesium Chloride - 1ml (1)	Taq DNA Polymerase - (20μL), 10X Reaction (No MgCl ₂) Buffer - (1mL), 25mM Magnesium Chloride - (1mL)
TP-NM-500	500	Taq DNA Polymerase - 500 units (1), 10X Reaction (No MgCl ₂) Buffer - 1ml (2), 25mM Magnesium Chloride - 1ml (1)	Taq DNA Polymerase - (100μL), 10X Reaction (No MgCl ₂) Buffer - (2mL), 25mM Magnesium Chloride - (1mL)
TP-NM-1000	1000	Taq DNA Polymerase - 500 units (2), 10X Reaction (No MgCl ₂) Buffer - 1ml (4), 25mM Magnesium Chloride - 1ml (2)	Taq DNA Polymerase - (200μL), 10X Reaction (No MgCl ₂) Buffer - (4mL), 25mM Magnesium Chloride - (2mL)

Storage and Handling:

Store at -20°C upon arrival.

Product Description:

The Taq DNA Polymerase gene a thermos stable enzyme isolated from *Thermus aquaticus* YT1 and expressed in *E.coli*. The enzyme consists of a single polypeptide with a molecular weight of 94 kDa. Taq DNA Polymerase possess a 5' → 3' polymerase activity, endonuclease activity, and will synthesize DNA products having dA overhangs on the 3' ends.

Empirical Taq DNA Polymerase is supplied in a storage buffer containing: 20mM HEPES (pH 7.9), 100mM KCl, 0.1mM EDTA, 1mM DTT, 50% (v/v) Glycerol, and other stabilizers.

10X PCR Reaction Buffer:

Empirical Taq DNA Polymerase is supplied with a specially optimized reaction buffer containing: 100mM Tris-HCl (pH 8.4), and 500mM KCl. This Buffer is supplied in a 10X concentration and should be diluted for use.

25mM MgCl₂

25 mM MgCl₂ is supplied in a separate tube.

Reaction Set-Up for a 50uL Reaction:

Component	Volume	Final Concentration
10X Reaction (No MgCl ₂) Buffer	5 μl	1X
25mM Magnesium Chloride	X μl	As desired
Upstream Primer, 10μM	1.0-5.0 μl	0.2-1.0μM
Downstream Primer, 10μM	1.0-5.0 μl	0.2-1.0μM
dNTP, 10mM	1-4 μl	200-800μM
DNA Template	X μl	>0.5ng DNA
Taq DNA Polymerase, 5U/μl	0.2-1 μl	1U-5U
Nuclease Free Water to Volume	to 50 μl	N.A.

* This product is for "Research Use Only. Not for use in diagnostic procedures".

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Thermal cycling conditions: The following general cycling conditions are recommended but can vary depending on the template and primers being used.

Cycling Step	Temperature	Holding Time	Cycles
Initial Denaturation	94°C	30 sec - 2min	1
Denaturation	94-96°C	15 - 30sec	20-30
Annealing°	55-65°C	15 - 60sec	
Extension	70-72°C	1min/kb	
Final Extension	70-72°C	0-10min	1

°Annealing will depend on primer length and composition. Generally, begin 5°C below primer T_m .

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