

Maximo H-SPlus Taq DNA Polymerase

Hot-Start polymerase with ultra-short inactivation time

Features:

- Maximo H-SPlus-Taq DNA Polymerase is “inactive” at room-temperature
- When the reaction temperature is greater than 70 °C the Polymerase “jumps” into action
- It is neither blocked by Antibodies nor by chemically modification -> ultra-short activation time
- For “high-yield” Hot-Start PCR results
- Multiplex PCR
- PCR setting up at room-temperature
- As sensitive Polymerase for PCR Diagnostics research

Description:

Maximo H-SPlus-Taq DNA Polymerase (recombinant from *Thermus aquaticus*) catalyzes the polymerization of nucleotides into duplex DNA in 5'→3' direction in the presence of magnesium. It also possesses a 5'→3' polymerization-dependent exonuclease replacement activity but lacks a 3'→5' exonuclease activity. The activation of the enzyme starts immediately at 70°C and requires no increased time in heating or denaturation step. Its activity is blocked at ambient temperature and switched on automatically at the onset of the initial denaturation. The thermal activation prevents the extension of nonspecifically annealed primers and primer-dimer formation at low temperatures during PCR setup.

Unit definition:

One unit is defined as the amount of enzyme required to incorporate 10 nmoles of dNTP into acid-insoluble material in 30 min at 72°C.

Concentration: 5 u/μl

Storage buffer:

20 mM Tris-HCl, 100 mM KCl, 0.15 mM EDTA, 1 mM DTT, 0.5% Tween-20, 0.5% Nonidet P40, 50% Glycerol, pH 8.1

Reaction buffers:

Reaction buffer (10X) “incomplete” (red cap): 160 mM (NH₄)₂SO₄, 670mM TrisHCl pH 8,8, 0,1% Tween-20

Reaction buffer (10X) “complete” (yellow cap): 160 mM (NH₄)₂SO₄, 670mM TrisHCl pH 8,8, 0,1% Tween-20, 25mM MgCl₂

separate Tube: MgCl₂ (100 mM, green cap)

Recommended 10X Reaction Buffer for increased sensitivity (Not provided):

100 mM Tris-HCl (pH 8.8), 500 mM KCl, 0.1 % Tween 20, 15 mM MgCl₂

Quality control

- Tested free from endonucleases and primer contamination, positive PCR performance with several templates of Lambda DNA (<= 12 kb) and human placenta DNA (3kb)



Standard Protocol:

Components	Volume per reaction
10X reaction buffer	5-10 µl
100 mM MgCl ₂	optional
dNTP-Mix (40mM)	1.0 µl
Up-stream primer (10 µM stock)	0,5-2.5 µl
Down-stream primer (10µM stock)	0.5-2,5 µl
Template DNA	0.1-15 ng/ml plasmid DNA 1-10 µg/ml genomic DNA
Maximo H-SPlus-Taq DNA (5 u/µl)	0.2 - 1.0 µl
Sterile dest. Water (molecular grade)	up to 50 µl total reaction volume

Note:

- vortex all solutions carefully before using
- add the enzyme after Template DNA
- may you have to optimize the MgCl₂ concentration for best result

General Thermo-Cycler protocol:

Step	Time	Temperature
Initial denaturation	1-2	94-95 °C
25-30 Cycles:		
Denaturation	30 sec	94-95 °C
Annealing	30 sec	48-68 °C
Extension	0,5-3 min	72 °C per 1kb
Final extension	2-3 min	72 °C

Note:

- In case of low amount of DNA template, additionally cycles may be used

Storage: at -20 °C for 24 months, avoid frequent thawing and freezing

Transport:

with blue ice or at ambient temperature depending on the destination

Ordering information:

Cat.-no	Description	Amount
S400	H-SPlus Taq DNA Pol. (5 U/µl)	200 units
S410	H-SPlus Taq DNA Pol. (5 U/µl)	1000 units
S410HC25	H-SPlus Taq DNA Pol. HC (25 U/µl)	2000 units *
S410HC50	H-SPlus Taq DNA Pol. HC (50 U/µl)	2000 units *

*setting up fee

Related Products:

- [PCR mastermixes with EVAGreen and ROX](#)
- [PCR mastermixes with UDG and dTTP](#)

GeneON .. a good decision ..

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