



The ENZYME Company

SUPERHOT TAQ DNA Polymerase (for "Real-Time"- PCR)

Cat.-No.: 119002

200 units

Description

Super Taq DNA Polymerase is the optimized mixture of Taq DNA Polymerase and anti-Taq DNA polymerase monoclonal antibodies. Antibodies block polymerase activity during set-up of the PCR reactions at ambient temperature (20-22 °C). The inhibition of Taq DNA polymerase is completely reversed when the temperature is above 70°C. The PCR products obtained with SuperTaq are free from unspecific products and from primer-dimers.

Unit Definition:

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

Reaction buffer (x10) "incomplete" supplied:

160 mM (NH₄)₂SO₄, 670 mM TrisHCl pH 8.8, 0.1 % Tween-20

Reaction buffer (x10) "complete" supplied:

160 mM (NH₄)₂SO₄, 670 mM TrisHCl pH 8.8, 0.1 % Tween-20,
25 mM MgCl₂

Reaction buffer (x10) "complete II KCl" supplied:

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

Additionally provided:

1 Tube MgCl₂ (100 mM)

Storage Buffer:

10 mM Tris-HCl (pH 7.0); 50mM KCl; 0.1mM EDTA; 50% glycerol

Storage Conditions:

Long term storage: -20 °C

Concentration:

5 units/μl

Recommended PCR conditions:

Use PCR conditions optimized for Taq DNA polymerase. In the case of low amount of DNA template, additional cycles may be used.

Applications:

Complex genomic or cDNA templates, low copy numbers targets, large numbers of thermal cycles, multiplex PCR

Catalog #	Conc.	Pack size
119002	5 units/μl	200 u
119010	5 units/μl	1000 u

VersionFH23.01.09

Bioron International

Contact Germany Phone +49-(0)-621- 5720 915 Contact Singapore Phone +65 6896 8063

Contact Poland Phone +48 42 677 04 57 Contact Sweden Phone +46 705 705 228

E-Mail: info@bioron.net WEB: www.bioron.net



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Pipetting Scheme

Components	Volume / 50µl PCR-Reaction	Final concentration
10 x PCR-Buffer	5 µl	1 x
dNTP-Mix (40mM)	1 µl	800 µM (200µM each)
Upstream Primer	variabel	0,1-0,5 µM
Downstream Primer	variabel	0,1-0,5 µM
DFS-Taq DNA Polymerase	0,25-1,0 µl	1,25-5,0 units
Template DNA	variabel	10 to 500ng /reaction
Sterile dest. water	Adjust to 50 µl final volume	

Separate MgCl₂ solution can be used, if incomplete buffer is used, or if you have to **titrate MgCl₂** for optimal PCR results:

Final MgCl ₂ conc. mM	1,5	2	2,5	3	3,5	4	4,5	5	5,5	6
Volume in µl of 100 mM MgCl ₂ per 50 µl reaction	0,75	1	1,25	1,5	1,75	2	2,25	2,5	2,75	3

Thermocycler Protocol

step	time	temperature
initial denaturation	2 minutes	94 °C
30 cycles:		
denaturation	10 seconds	94 °C
annealing	20 seconds	55 °C
extension	1 minute	72 °C

Notes:

A final extension step of up to 10 minutes may be useful. Incomplete fragments will be completed. Program the cycler according manufacturers instructions. Each program should start with an initial denaturation step at 94 °C for 2 to max. 5 min.

Recommended elongation time is 1 min per 1kb of target.

For maximum yield and specificity, temperatures (annealing) and cycling times should be optimized for each new template target or primer pair.

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