

**Chromo
Taq DNA Polymerase
(recombinant)**



Lot :
 Expiry Date :
 Concentration : 1u/μl
 Supplied with : 2ml of 10X ViBuffer A
 1ml of 10X ViBuffer S
 1ml of 50mM MgCl₂

Store at - 20°C



Product No : PL1205
 Quantity : 200u

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Description:

Chromo Taq DNA Polymerase is a thermostable DNA polymerase. It is suitable for applications requiring high temperature synthesis of DNA. Chromo Taq DNA Polymerase catalyzes the polymerization of nucleotides into duplex DNA in the 5' to 3' direction with the presence of Mg²⁺ but maintains the 5' to 3' exonuclease activity. The enzyme is supplemented with indicators for ease of visualization of the addition of polymerase to the reaction.

Features:

- Thermostable enzyme of approximately 94kDa from *Thermus aquaticus*.
- Ultra pure recombinant protein.
- Replicates DNA at 74°C and exhibits a half-life 40 minutes at 95°C.
- Generates mostly 3' dA overhang PCR products which are suitable for TA cloning.

Unit Definition :

1u is defined as amount of enzyme that required to catalyze the incorporation of 10nmoles of dNTP into acid-insoluble material in 30 minutes at 74°C.

Reaction Buffer:

10X ViBuffer A (without MgCl₂):

500mM KCl, 100mM Tris-HCl (pH9.1 at 20°C) and 0.1% Triton™X-100. The buffer is optimized for use with 0.1-0.2mM of each dNTP.

10X ViBuffer S:

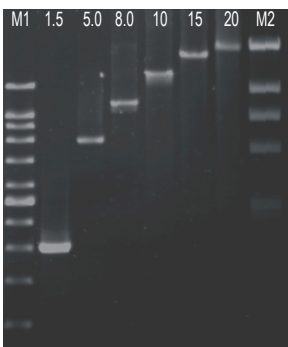
160mM (NH₄)₂SO₄, 500mM Tris-HCl (pH 9.2 at 22°C), 17.5mM MgCl₂ and 0.1% Triton™X-100. The buffer is optimized for use with 0.35mM of each dNTP.

Storage Buffer:

20mM Tris-HCl (pH 8.0 at 22°C), 100mM KCl, 0.5% Tween™ 20, 0.5% Nonidet-P40, 0.1mM EDTA, 1mM DTT and 50% glycerol.

Quality Control:

All preparations are assayed for contaminating endonuclease, exonuclease, and non-specific DNase activities. Functionally tested in DNA amplification.



Amplification Using Vivantis Taq DNA Polymerase

Lane M1 : VC 1kb DNA Ladder
 Lane 1.5kb : 1.5kb PCR product generated using 0.2mM dNTPs and 2.0u Vivantis Taq DNA Polymerase.
 Lane 5kb and 8kb : 5kb and 8kb PCR products generated using 0.25mM dNTPs, 2.5u Vivantis Taq DNA Polymerase and 3% formamide.
 Lane 10kb-20kb : 10kb,15kb and 20kb PCR products generated using 0.36mM dNTPs, 2.5u Vivantis Taq DNA Polymerase and 3% formamide.
 Lane M2 : VC Lambda/HindIII Marker
 0.5% TAE agarose gel, 5V/cm

SUGGESTED INITIAL PCR CONDITIONS FOR VARIOUS PCR PRODUCT SIZES WITH VIVANTIS DNA POLYMERASES (#PL1201 - 06 / #PL2201 - 06 / #PL3201 - 06 / #PL4201 - 06)
REACTION MIX (FINAL CONCENTRATION) :

Primers : 0.2 - 1μM Template: Plasmid (0.02-0.2ng) Lambda (0.1 - 150ng) Genomic (0.05-5μg)	Product Size	100bp - 5kb	5kb - 8kb	8kb - 20kb
	dNTP Mix	100μM	200μM	300μM
	ViBuffer (1X)	A	A	S
	Ultrapure DMSO or formamide	-	3%	3%
Refer to below Table (A)				

Product Size	100bp - 5kb	5kb - 8kb	8kb - 20kb
Denaturation	94°C, 2 min	94°C, 2 min	94°C, 2 min
Denaturation	94°C, 30 s	94°C, 12 s	94°C, 12 s
Annealing*	50 - 68°C, 30 s	50 - 68°C, 30 s	50 - 68°C, 30 s
Extension / 1kb	72°C, 30 s	72°C, 45 s	68°C, 1 min
Cycles	25 - 35	25 - 35	25 - 35
Final Extension	72°C, 7 min	72°C, 7 min	68°C, 7 min

*Primer dependent

TABLE (A) : RECOMMENDED UNITS FOR SPECIFIC VIVANTIS DNA POLYMERASES PER 50μL REACTION VOLUME :

Product Size	Taq (#PL1201 - 06)	Max Taq (#PL2201 - 06)	At Taq (#PL3201 - 06)	AtMax Taq (#PL4201 - 06)
0.1 - 5.0kb	2.0	2.0	2.0	2.0
5.0 - 8.0kb	2.5	2.0	2.5	2.0
8.0 - 20.0kb	2.5	2.0	2.5	2.0
>20.0kb	-	2.0	-	2.0

*This protocol is subjected to changes depending on the template DNA

Product Use Limitation

This product is for research purpose an *in vitro* use only