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RELATED PRODUCTS

Reagents Sold Separately

Crimson *Taq*TM DNA Polymerase with (Mg-free) Buffer

Crimson *Taq*TM Reaction Buffer Pack

Companion Products

Taq 5X Master Mix

Taq 2X Master Mix

Taq PCR Kit

Crimson *Taq*TM (Mg-free) Reaction Buffer Pack

CrimsonTM *Taq* PCR Sampler

Deoxynucleotide Solution Mix

Deoxynucleotide Solution Set

Diluent F

Magnesium Chloride (MgCl₂) Solution

Quick-Load® *Taq* 2X Master Mix

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Crimson *Taq* DNA Polymerase



Not Heat Inactivated

Catalog #	Size	Concentration	Price	Qty	
M0324L	1,000 units	5,000 units/ml	\$180.00	1	 add to cart
M0324S	200 units	5,000 units/ml	\$45.00	1	 add to cart

Prices are in US dollars and valid only for US orders.

Download: [MSDS PDF](#)

Description:

Taq DNA Polymerase is a thermostable DNA polymerase that possesses a 5' → 3' polymerase activity (1,2,3) and a 5' flap endonuclease activity (4,5).

Crimson *Taq* DNA Polymerase offers superior performance in its newly formulated PCR buffer. Crimson *Taq* Reaction Buffer contains a density reagent, which allows direct loading of PCR products onto a gel. In addition, Crimson *Taq* Reaction Buffer has trace amounts of a red dye, which serves as an indicator for homogenous reaction setup, a color aid in gel loading and a tracking dye which migrates at about 10 bp on a 1% TBE gel.

Amplification of specific sequences from human genomic DNA using Crimson *Taq* DNA Polymerase. Amplicon sizes are indicated below gel. Marker M is NEB 1 kb DNA Ladder ([NEB #N3232](#)).

Source:

An *E. coli* strain that carries the Crimson *Taq* DNA Polymerase gene from *Thermus aquaticus* YT-1.

Applications:

- Primer Extension
- Routine PCR
- Colony PCR
- DHPLC
- Microarray Analysis
- High-throughput PCR

Advantages:

- Robust and reliable reactions
- Samples can be loaded directly onto a gel
- Ideal for high throughput applications

Reagents Supplied:

Crimson *Taq*TM DNA Polymerase with (Mg-free) Buffer
Crimson *Taq*TM Reaction Buffer Pack (5X)

Enzyme Properties

Heat Inactivation:

No

Reaction & Storage Conditions

Unit Definition:

One unit is defined as the amount of enzyme that will incorporate 15 nmol of dNTP into acid insoluble material in 30 minutes at 75°C.

Unit Assay Conditions: 1X ThermoPol Reaction Buffer, 200 μ M dNTPs including [3 H]-dTTP and 200 μ g/ml activated Calf Thymus DNA.

Reaction Conditions: 1X Crimson *Taq* Reaction Buffer, DNA template, primers, 200 μ M dNTPs (not included) and 1.25–2.5 units of Crimson *Taq* DNA Polymerase in a total reaction volume of 50 μ l.

1X Crimson *Taq* Reaction Buffer:

12.5 mM Tricine
42.5 mM KCl
1.5 mM MgCl₂
6% Dextran
Acid Red
pH 8.5 @ 25°C

Concentration:

5,000 units/ml

Storage Conditions:

10 mM Tris-HCl
100 mM KCl
1 mM Dithiothreitol
0.1 mM EDTA
50% Glycerol
0.5% Tween-20
0.5% NP-40
pH 7.4 @ 25°C

Storage Temperature:

-20°C

FAQs

1. [What are the advantages or disadvantages of Crimson *Taq* DNA Polymerase?](#)
2. [Does the 5X Crimson *Taq* Reaction Buffer offer amplification efficiency similar to that of Standard *Taq* Reaction Buffer or ThermoPol Reaction Buffer?](#)
3. [Can the PCR product be used directly in T/A cloning?](#)
4. [How do I remove the dye and Dextran from my PCR reactions using Crimson *Taq* Reaction Buffer?](#)
5. [How long is the Crimson *Taq* Reaction buffer stable in non-optimal storage conditions?](#)
6. [Can Phire® DNA Polymerase or Phusion® High-Fidelity DNA Polymerase be used in Crimson *Taq* Buffer ?](#)

Protocols

[Protocols for Crimson *Taq* DNA Polymerase](#)

Quality Control for Current Lot

Quality control values for a specific lot can be found on the datacard which accompanies each product.

5 kb Lambda PCR:

25 cycles of PCR amplification of 5 ng Lambda DNA with 1.25 units of Crimson *Taq* DNA Polymerase in the presence of 200 μ M dNTPs and 0.2 μ M primers in Crimson *Taq* Reaction Buffer results in the expected 5 kb product.

3' $\rightarrow$ 5' Exonuclease Activity:

Incubation of a 20 μ l reaction in ThermoPol Reaction Buffer containing a minimum of 20 units of Crimson *Taq* DNA Polymerase with 10 nM fluorescent internally labeled oligonucleotide for 30 minutes at either 37°C or 75°C yields no detectable 3' $\rightarrow$ 5' degradation as determined by capillary electrophoresis.

Endonuclease Activity:

Incubation of a 50 μ l reaction in ThermoPol Reaction Buffer containing a minimum of 20 units of Crimson *Taq* DNA Polymerase with 1 μ g of supercoiled Φ X174 DNA for 4 hours at 75°C results in < 10% conversion to the nicked form as determined by agarose gel electrophoresis.

References

1. Chien, A., Edgar, D.B. and Trela, J.M. (1976) *J. Bact.*, 127, 1550-1557.

2. Kaledin, A.S., Sliusarenko, A.G. and Gorodetskii, S.I. (1980) *Biokhimiya*, 45, 644-651.
3. Lawyer, F.C. et al. (1993) *PCR Methods and Appl.*, 2, 275-287.
4. Longley, M.J., Bennett, S.E. and Mosbaugh D.W. (1990) *Nucleic Acids Res.*, 18, 7317-7322.
5. Lyamichev, V., Brow, M.A. and Dahlberg, J.E. (1993) *Science*, 260, 778-783.
6. Saiki R.K. et al. (1985) *Science*, 230, 1350-1354.
7. Powell, L.M. et al. (1987) *Cell*, 50, 831-840.
8. Sun, Y., Hegamyer, G. and Colburn, N. (1993) *Biotechniques*, 15, 372-374.
9. Sarkar, G., Kapelner, S. and Sommer, S.S. (1990) *Nucleic Acids Res.*, 18, 7465.

Reagents Sold Separately

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Crimson *Taq*[™] Reaction Buffer Pack

Companion Products

Taq 5X Master Mix
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Deoxynucleotide Solution Set
Diluent F
Magnesium Chloride (MgCl₂) Solution
Quick-Load® *Taq* 2X Master Mix

Legal

Patents:

New England Biolabs, Inc.: U.S. Patent No. 7,462,475

Patent Limitations: Warranties