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Certificate of Analysis

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Taq I

Catalog No: 2410

Lot No: See Product Label
Package Size: See Product Label
Concentration: See Product Label
Source: Thermus aquaticus
Storage Conditions: Store at -20°C

Recognition/Cut Site

5'-T↓CGA-3'
3'-AGC↑T-5'

Unit Definition

One unit is the amount of enzyme required to completely digest ϕX-174 DNA in 1 hour in a total reaction volume of 50µl.

Reaction Temperature

65ºC

Heat Inactivation

No

Assay Conditions

50 mM Tris-HCl (pH 8.0)
10 mM $MgCl_2$
50mM NaCl
1 µg of ϕX-174 DNA
Incubation is at 65ºC for 1 hour in a reaction volume of 50 µl

Storage Buffer

50 mM Tris-HCl (pH 7.5)
300 mM KCl
0.1 mM EDTA
10 mM β-mercaptoethanol
0.1% Triton X-100
500 µg/ml Bovine Serum Albumin
50% (v/v) Glycerol

Quality Control

Non-specific Endonuclease: Incubation of 10, 20, and 30 units of Taq I with 1 µg of ϕX-174 DNA at 65°C for 5 hours (a 150-fold over-digestion) resulted in the same sharp characteristic banding pattern as 4 units of Taq I with 1 µg of ϕJX-174 DNA at 65°C for 1 hour. Results determined by agarose gel electrophoresis. Reaction volume of 50 µl.

Non-specific Endonuclease: Incubation of 10, 20, and 30 units of Taq I with 1 µg of SV40 DNA at 65°C for 5 hours (a 150-fold over-digestion) resulted in the same sharp characteristic banding pattern as 4 units of Taq I with 1 µg of SV40 DNA at 65°C for 1 hour. Results determined by agarose gel electrophoresis. Reaction volume of 50 µl.

3'-Exonuclease: Incubation of 2, 5, 10, 15, and 20 units of Taq I and 5 pmoles of 3'-ends of lambda/Taq I fragments (3'-labelled with Klenow and [^{3}H]dCTP), incubated for 1 hour at 65°C resulted in ≤0.3 slope of %-end label released per unit of enzyme. Reaction volume of 50 µl.

5'-Exonuclease/5'-Phosphatase: Incubation of 2, 5, 10, 15, and 20 units of Taq I with 0.25 µg 5'-ends of [5'-^{32}P]lambda/Hae III fragments for 1 hour at 65°C resulted in ≤0.3 slope of %-end label released per unit of enzyme. Reaction volume of 50 µl.

Ligation/Recut: Incubation of 2 units of Taq I with 1 µg of ϕX-174 DNA at 65°C produces fragments that ligate with >95% efficiency. The recut efficiency of these ligated fragments is 100%.