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Certificate of Analysis

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Sma I

Catalog No: 2390

Lot No: See Product Label

Package Size: See Product Label

Concentration: See Product Label

Source: *Serratia marcescens*

Storage Conditions: Store at -20°C

Recognition/Cut Site

5'-CCC↓GGG-3'
3'-GGG↑CCC-5'

Unit Definition

One unit is the amount of enzyme required to completely digest 1 µg of adenovirus-2 DNA in 1 hour at 30°C in a total reaction volume of 50 µl.

Reaction Temperature

50°C

Heat Inactivation

10 minutes at 65°C

Assay Conditions

20 mM Tris-HCl (pH 7.4)
5 mM MgCl₂
50 mM KCl
1 µg of adenovirus-2 DNA
Reaction volume 50 µl

Storage Buffer

20 mM Tris-HCl (pH 7.5)
1 mM EDTA
7 mM β-mercaptoethanol
500 µg/ml Bovine Serum Albumin
50% (v/v) Glycerol

Quality Control

Endonuclease: Incubation of 10, 20, and 30 units of Sma I with 1 µg of Adenovirus-2 DNA at 30°C for 5 hours (a 150-fold over-digestion) resulted in the same sharp characteristic banding pattern as 4 U/µg in the standard 1 hour assay reaction, as determined by agarose gel electrophoresis.

Nicking: Incubation of 10, 20, and 30 units of Sma I with 1 µg of φX174 DNA at 30°C for 5 hours resulted in ≤10% conversion of RF I to RF II and ≤5% conversion to RFIII, as determined by agarose gel electrophoresis.

3'-Exonuclease: Incubation of 2, 5, 10, 15, and 20 units of Sma I with 5 pmoles of Lambda/Taq I fragments (3'-labeled with Klenow exo⁻ and [³H]dCTP), incubated for 1 hour at 30°C resulted in a ≤0.3 slope of %-end label released per unit of enzyme. Reaction volume of 50 µl.

5'-Exonuclease: Incubation of 2, 5, 10, 15, and 20 units of Sma I with 0.25 µg of [5'-³²P]Lambda/Hae III fragments for 1 hour at 30°C resulted in a ≤0.3 slope of %-end label released per unit of enzyme. Reaction volume of 50 µl.

Ligation/Recut: Incubation of 2 units of Sma I with 1 µg of Adenovirus-2 DNA at 30°C produces fragments that ligate with ≥65% efficiency. The recut efficiency of these ligated fragments is 100%.

For more information or to re-order, please visit www.chimerx.com