

SmlI



1-800-632-7799
info@neb.com
www.neb.com



R0597S 010121014101

R0597S



500 units Lot: 0101210 Exp: 10/14
RECOMBINANT 10,000 U/ml Store at -20°C

Recognition Site:

5'...CTYRAG...3'
3'...GARYTC...5'

Single Letter Code: R = A or G, Y = C or T

Source: An *E. coli* strain that carries the cloned SmlI gene from *Stenotrophomonas maltophilia* (T. Le)

More Units, Now Recombinant

Supplied in: 50 mM KCl, 10 mM Tris-HCl (pH 7.5), 0.1 mM EDTA, 1 mM DTT, 400 µg/ml BSA and 50% glycerol.

Reagents Supplied with Enzyme:
10X NEBuffer 4, 100X BSA.

Reaction Conditions: 1X NEBuffer 4, supplemented with 100 µg/ml BSA.
Incubate at 55°C.

1X NEBuffer 4:
50 mM potassium acetate
20 mM Tris-acetate
10 mM magnesium acetate
1 mM DTT
pH 7.9 @ 25°C

Unit Definition: One unit is defined as the amount of enzyme required to digest 1 µg of λ DNA in 1 hour at 55°C in a total reaction volume of 50 µl.

Diluent Compatibility: Diluent Buffer A
50 mM KCl, 10 mM Tris-HCl, 0.1 mM EDTA, 1 mM DTT, 200 µg/ml BSA and 50% glycerol (pH 7.4 @ 25°C)

Quality Control Assays

Ligation: After 10-fold overdigestion with SmlI, approximately 75% of the DNA fragments can be ligated with T4 DNA Ligase (at a 5' termini concentration of 1–2 µM) at 16°C. Of these ligated fragments, approximately 25% can be recut.

16-Hour Incubation: A 50 µl reaction containing 1 µg of DNA and 10 units of enzyme incubated for 16 hours resulted in the same pattern of DNA bands as a reaction incubated for 1 hour with 1 unit of enzyme.

Exonuclease Activity: Incubation of 20 units of enzyme with 1 µg sonicated ³H DNA (10⁵ cpm/µg) for 4 hours at 55°C in 50 µl reaction buffer released < 0.1% radioactivity.

Enzyme Properties

Activity in NEBuffers:

NEBuffer 1 25%
NEBuffer 2 75%
NEBuffer 3 25%
NEBuffer 4 100%

When using a buffer other than the optimal (supplied) NEBuffer, it may be necessary to add more enzyme to achieve complete digestion.

CERTIFICATE OF ANALYSIS

Survival in a Reaction: A minimum of 0.25 unit is required to digest 1 µg of substrate DNA in 16 hours.

Heat Inactivation: No

Notes: Not sensitive to *dam*, *dcm* or mammalian GpG methylation.

Incubation at 37°C results in 10% activity.

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