NheI

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

R0131S 0271210 14101

R0131S

1,000 units **10,000 U/ml** **Lot: 0271210**
RECOMBINANT **Store at –20°C** **Exp: 10/14**

Recognition Site:

5′. . . G▼C T A G C . . . 3′
3′. . . C G A T C▲G . . . 5′

Source: An *E. coli* strain that carries the cloned NheI gene from *Neisseria mucosa heidelbergensis* (ATCC 25999)

Also Available In High-Fidelity (HF™) Format

Supplied in: 250 mM NaCl, 10 mM Tris-HCl (pH 7.4), 0.1 mM EDTA, 1 mM dithiothreitol, 0.15% Triton X-100, 200 µg/ml BSA and 50% glycerol.

Reagents Supplied with Enzyme:
10X NEBuffer 2, 100X BSA

Reaction Conditions: 1X NEBuffer 2, supplemented with 100 µg/ml BSA. Incubate at 37°C.

1X NEBuffer 2:
50 mM NaCl
10 mM Tris-HCl
10 mM $MgCl_2$
1 mM dithiothreitol
pH 7.9 @ 25°C

Unit Definition: One unit is defined as the amount of enzyme required to digest 1 µg of λ DNA (HindIII digest) in 1 hour at 37°C in a total reaction volume of 50 µl.

Diluent Compatibility: Diluent Buffer C
250 mM NaCl, 10 mM Tris-HCl, 0.1 mM EDTA, 1 mM dithiothreitol, 0.15% Triton X-100, 200 µg/ml BSA and 50% glycerol (pH 7.4 @ 25°C).

Quality Control Assays

Ligation: After 100-fold overdigestion with NheI, > 95% 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, > 95% can be recut.

16-Hour Incubation: A 50 µl reaction containing 1 µg of DNA and 60 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 700 units of enzyme with 1 µg sonicated ^3H DNA (10^5 cpm/µg) for 4 hours at 37°C in 50 µl reaction buffer released < 0.1% radioactivity.

Endonuclease Activity: Incubation of 30 units of enzyme with 1 µg ϕX174 RF I DNA for 4 hours at 37°C in 50 µl reaction buffer resulted in < 10% conversion to RF II.

Enzyme Properties

Activity in NEBuffers:

NEBuffer 1	100%
NEBuffer 2	**100%**
NEBuffer 3	10%
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.

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

Heat Inactivation: 25 units of enzyme were inactivated by incubation at 65°C for 20 minutes.

Notes: Cleaves to leave a 5′ CTAG extension which can be efficiently ligated to DNA fragments generated by AvrII, SpeI or XbaI.

Cleavage of mammalian genomic DNA is blocked by some combinations of overlapping CpG methylation.

Activity inhibited by salt concentrations > 100 mM.

(See other side)

CERTIFICATE OF ANALYSIS

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(See other side)
CERTIFICATE OF ANALYSIS

Companion Products Sold Separately:

NheI-HF™

#R3131S	1,000 units
#R3131L	5,000 units
#R3131M	5,000 units

NheI-HF™ RE-Mix™

#R5131S	50 reactions

= Time-Saver™ Qualified (See www.neb.com for details).

U.S. Patent No. 6,387,681

Companion Products Sold Separately:

NheI-HF™

#R3131S	1,000 units
#R3131L	5,000 units
#R3131M	5,000 units

NheI-HF™ RE-Mix™

#R5131S	50 reactions

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