Nb.BbvCI

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

R0631S 002120714071

R0631S

1,000 units **10,000 U/ml** **Lot: 0021207**
RECOMBINANT **Store at –20°C** **Exp: 7/14**

Recognition Site:
5′...CCTCAGC...3′
3′...GGAGTCG...5′

Description: Nb.BbvCI is a nicking endonuclease that cleaves only one strand of DNA on a double-stranded DNA substrate.

Source: An E. coli strain expressing an altered form of the BbvCI restriction genes [Ra+:Rb(E177G)] from *Bacillus brevis* (L. Ge)

Supplied in: 50 mM KCl, 10 mM Tris-HCl (pH 7.4), 0.1 mM EDTA, 1 mM dithiothreitol, 200 µg/ml BSA and 50% glycerol.

Reagents Supplied with Enzyme:
10X NEBuffer 2.

Reaction Conditions: 1X NEBuffer 2. 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 convert 1 µg of supercoiled plasmid DNA to open circular form in 1 hour at 37°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 dithiothreitol, 200 µg/ml BSA and 50% glycerol (pH 7.4 @ 25°C).

Quality Control Assays

16-Hour Incubation: A 50 µl reaction containing 1 µg of DNA and 30 units of enzyme incubated for 16 hours showed no degradation of DNA fragments.

Exonuclease Activity: Incubation of 30 units of enzyme with 1 µg sonicated [^{3}H] DNA (10^5 cpm/µg) for 4 hours at 37°C in 50 µl reaction buffer released < 0.05% radioactivity.

Enzyme Properties

Activity in NEBuffers:

NEBuffer 1	50%
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 0.13 unit is required to digest 1 µg of substrate DNA in 16 hours.

Heat Inactivation: 50 units of enzyme were inactivated by incubation at 80°C for 20 minutes.

Note: The nomenclature of this enzyme has been changed.

Companion Products:

Nt.BbvCI (NEB #R0632)
5′...CCTCAGC...3′
3′...GGAGTCG...5′

Nt.BstNBI (NEB #R0607)
5′...GAGTCNNNNN...3′
3′...CTCAGNNNNN...5′

Nt.AlwI (NEB #R0627)
5′...GGATCNNNNN...3′
3′...CCTAGNNNNN...5′

References:

1. Song, Q. et al. (2010). *Anal. Chem.* [Epub ahead of print].
2. Zhang, P. et al. (2010) *Protein Expr. Purif.* 69, 226–234. [Epub 2009 Sep 9].

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