BanI

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

R0118S 027120814081

R0118S

5,000 units **20,000 U/ml** **Lot: 0271208**
RECOMBINANT **Store at –20°C** **Exp: 8/14**

Recognition Site:

5′... G▼G Y R C C ...3′
3′... C C R Y G▲G ...5′

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

Source: An *E. coli* strain that carries the cloned BanI gene from *Bacillus aneurinolyticus* (IAM 1077)

Supplied in: 50 mM KCl, 10 mM Tris-HCl (pH 7.4), 0.1 mM EDTA, 1 mM DTT, 200 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 37°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 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 DTT, 200 µg/ml BSA and 50% glycerol (pH 7.4 @ 25°C).

Quality Control Assays

Ligation: After 10-fold overdigestion with BanI, > 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 20 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 100 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 < 0.1% radioactivity.

Enzyme Properties

Activity in NEBuffers:

NEBuffer 1	50%
NEBuffer 2	100%
NEBuffer 3	50%
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: Suitable for an extended or overnight digestion. Enzyme is active > 8 hours.

Heat Inactivation: 200 units of enzyme were inactivated by incubation at 65°C for 20 minutes.

Notes: Blocked by some combinations of overlapping *dcm* methylation.

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

BanI is inhibited by salt concentrations above 150 mM.

Companion Products:
dam^{-}/dcm^{-} Competent *E. coli*

#C2925H	20 transformation reactions
#C2925I	24 transformation reactions

CERTIFICATE OF ANALYSIS

BanI

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

R0118S 027120814081

R0118S

5,000 units 20,000 U/ml Lot: 0271208
RECOMBINANT Store at –20°C Exp: 8/14

Recognition Site:

5′... G▼G Y R C C ...3′
3′... C C R Y G▲G ...5′

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

Source: An *E. coli* strain that carries the cloned BanI gene from *Bacillus aneurinolyticus* (IAM 1077)

Supplied in: 50 mM KCl, 10 mM Tris-HCl (pH 7.4), 0.1 mM EDTA, 1 mM DTT, 200 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 37°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 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 DTT, 200 µg/ml BSA and 50% glycerol (pH 7.4 @ 25°C).

Quality Control Assays

Ligation: After 10-fold overdigestion with BanI, > 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 20 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 100 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 < 0.1% radioactivity.

Enzyme Properties

Activity in NEBuffers:

NEBuffer 1	50%
NEBuffer 2	100%
NEBuffer 3	50%
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: Suitable for an extended or overnight digestion. Enzyme is active > 8 hours.

Heat Inactivation: 200 units of enzyme were inactivated by incubation at 65°C for 20 minutes.

Notes: Blocked by some combinations of overlapping *dcm* methylation.

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

BanI is inhibited by salt concentrations above 150 mM.

Companion Products:
dam^{-}/dcm^{-} Competent *E. coli*

#C2925H	20 transformation reactions
#C2925I	24 transformation reactions

CERTIFICATE OF ANALYSIS