

SallI-HF™



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



R3138S 004121014101

R3138S



2,000 units 20,000 U/ml Lot: 0041210
RECOMBINANT Store at -20°C Exp: 10/14

Recognition Site:

5'... G[▼]T C G A C ... 3'
3'... C A G C T[▲] G ... 5'

Note: Sall-HF™ has the same specificity as Sall (NEB #R0138), but it has been engineered for reduced star activity.

Source: An *E. coli* strain that carries the cloned and modified (R107A) Sall gene from *Streptomyces albus* G (ATCC 49789)

Supplied in: 50 mM KCl, 10 mM Tris-HCl (pH 7.5), 0.1 mM EDTA, 1 mM dithiothreitol, 300 µg/ml BSA and 50% glycerol.

Reagents Supplied with Enzyme:
10X NEBuffer 4.

Reaction Conditions: 1X NEBuffer 4.
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 (HindIII digest) 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 Controls

Ligation: After 50-fold overdigestion with Sall-HF, > 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 pBR322 DNA and 200 units of enzyme incubated for 16 hours resulted in the same pattern of DNA bands as a reaction incubated for 1 hour with 10 units of enzyme.

Exonuclease Activity: Incubation of 200 units of enzyme with 1 µg sonicated ³H DNA (10⁶ cpm/µg) for 4 hours at 37°C in 50 µl reaction buffer released < 0.1% radioactivity.

Endonuclease Activity: Incubation of 40 units 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.

Blue/White Screening Assay: This enzyme has been tested to determine the integrity of the DNA ends produced after digestion with an excess of enzyme. An appropriate vector is digested at a unique site within *lacZ^α* gene with a 10-fold excess of enzyme, ligated, transformed and plated on XGal/IPTG/Amp plates. Successful expression of β-galactosidase is a function of how intact its gene remains after cloning, an intact gene gives rise to a blue colony, an interrupted gene (i.e. degraded DNA end) gives rise to a white colony. Enzymes must produce fewer than 3% white colonies to be Blue/White Certified.

(see other side)

CERTIFICATE OF ANALYSIS

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CERTIFICATE OF ANALYSIS

Enzyme Properties

Activity in NEBuffers:

NEBuffer 1	10%
NEBuffer 2	100%
NEBuffer 3	100%
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: 20 units of enzyme were inactivated by incubation at 65°C for 20 minutes.

Plasmid Cleavage: Number of units required to cleave 1 µg of supercoiled plasmid DNA in one hour: pBR322 = 5 units, pUC19 = 2.5 units.

Notes: Cleavage of mammalian genomic DNA is blocked by CpG methylation.

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Companion Products:

Sall	
#R0138S	2,000 units
#R0138L	10,000 units
#R0138T	2,000 units
#R0138M	10,000 units

Sall-HF™ RE-Mix™	
#R5138S	100 reactions

New icons (see www.neb.com for details)




-  = Time-Saver™ Qualified
-  = indicates that the enzyme has been engineered
-  = indicates that the enzyme has reduced star activity

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