Fermentas
LIFE SCIENCES

CERTIFICATE OF ANALYSIS

Hin1I (BsaHI)

#ER0471 300 u

Lot: ___ **Expiry Date: _**

5'...**G R↓C G Y C**...3'
3'...**C Y G C↑R G**...5'

Concentration:	10 u/µl
Source:	*Haemophilus influenzae* RFL1
Supplied with:	1 ml of 10X Buffer G
	1 ml of 10X Buffer Tango™

Store at -20°C

In total 3 vials. BSA included

RECOMMENDATIONS

1X Buffer G (for 100% Hin1I digestion)
10 mM Tris-HCl (pH 7.), 10 mM $MgCl_2$, 50 mM NaCl, 0.1 mg/ml BSA.

Incubation temperature
37°C.

Unit Definition
One unit is defined as the amount of Hin1I required to digest 1 µg of lambda DNA *dcm*⁻ in 1 hour at 37°C in 50 µl of recommended reaction buffer.

Dilution
Dilute with Dilution Buffer (#B19): 10 mM Tris-HCl (pH 7.4 at 25°C), 100 mM KCl, 1 mM EDTA, 1 mM DTT, 0.2 mg/ml BSA and 50% glycerol.

Double Digests
Tango™ Buffer is provided to simplify buffer selection for double digests. 98% of Fermentas Restriction Enzymes are active in a 1X or 2X concentration of Tango™ Buffer. Please refer to the Fermentas Catalog or go to www.fermentas.com/doubledigest to choose the best buffer for your experiments.
1X Tango™ Buffer:
33 mM Tris-acetate (pH 7.9), 10 mM magnesium acetate, 66 mM potassium acetate, 0.1 mg/ml BSA.

Storage Buffer

Hin1I is supplied in: 10 mM potassium phosphate (pH 7.4 at 25°C), 100 mM NaCl, 1 mM EDTA, 1 mM DTT, 0.2 mg/ml BSA and 50% glycerol.

Recommended Protocol for Digestion

- Add:

nuclease-free water	16 µl
10X Buffer G	2 µl
DNA (0.5-1 µg/µl)	1 µl
Hin1I	0.5-2 µl

- Mix gently and spin down for a few seconds.
- Incubate at 37°C for 1-16 hours.

The digestion reaction may be scaled either up or down.

Recommended Protocol for Digestion of PCR Products Directly after Amplification

- Add:

PCR reaction mixture	10 µl	(~0.1-0.5 µg of DNA)
nuclease-free water	18 µl	
10X Buffer G	2 µl	
Hin1I	1-2 µl	

- Mix gently and spin down for a few seconds.
- Incubate at 37°C for 1-16 hours.

Thermal Inactivation

Hin1I is inactivated by incubation at 65°C for 20 min.

ENZYME PROPERTIES

Enzyme Activity in Fermentas REase Buffers, %

B	G	O	R	Tango™	2X Tango™
20-50	**100**	20-50	20-50	20-50	20-50

Methylation Effects on Digestion

Dam: never overlaps – no effect.
Dcm: may overlap – cleavage impaired.
CpG: completely overlaps – blocked.
EcoKI: never overlaps – no effect.
EcoBI: may overlap – effect not determined.

Stability during Prolonged Incubation

A minimum of 0.1 units of the enzyme is required for complete digestion of 1 µg of lambda DNA in 16 hours at 37°C.

Digestion of Agarose-embedded DNA

A minimum of 5 units of the enzyme is required for complete digestion of 1 µg of agarose-embedded lambda DNA in 16 hours.

Compatible Ends

Bsp119I, Bsu15I, Hin6I, HpaII, MaeII, MspI, NarI, Psp1406I, SsiI, TaqI, XmiI.

Number of Recognition Sites in DNA

λ	ΦX174	pBR322	pUC57	pUC18/19	pTZ19R/U	M13mp18/19
40	7	6	3	3	1	1

Note

Hin1I cleavage is impaired by overlapping *dcm* methylation. To avoid *dcm* methylation, use a *dam*⁻, *dcm*⁻ strain such as GM2163 (#M0099).

For **QUALITY CONTROL ASSAY DATA** *see* back page

QUALITY CONTROL ASSAY DATA

Overdigestion Assay

No detectable change in the specific fragmentation pattern is observed after a 160-fold overdigestion with Hin1I (10 u/µg lambda DNA *dcm*$^-$ x 16 hours).

Ligation/Recutting Assay

After a 50-fold overdigestion (3 u/µg DNA x 17 hours) with Hin1I, more than 95% of the digested DNA fragments can be ligated at a 5'-termini concentration of 0.38 µM. More than 95% of these sites can be recut.

Labeled Oligonucleotide (LO) Assay

No detectable degradation of single-stranded or double-stranded labeled oligonucleotides occurred during incubation with 10 units of Hin1I for 4 hours.

Quality authorized by:  Jurgita Zilinskiene

PRODUCT USE LIMITATION.

This product is developed, designed and sold exclusively *for research purposes and in vitro use only.* The product was not tested for use in diagnostics or for drug development, nor is it suitable for administration to humans or animals.
Please refer to www.fermentas.com for Material Safety Data Sheet of the product.