Restriction Endonuclease

SibEnzyme®

Sma I

Recognition Sequence:

CCC↓GGG
GGG↑CCC

S E177T

2,000 units
20,000 u/ml

Lot: 44
Exp: 05/19
Store at -20C

SE-Buffers	B	G	O	W	Y	ROSE
%Activity	0-10	0-10	0-10	0-10	100	50

25°C | 65°C | Y | λ/Hind III | RR | TURBO

For more details scan the code

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CERTIFICATE OF ANALYSIS

Description: Turbo Sma I can be used for short time (10-15 min) DNA digestion as well as for standard reaction. The reaction can be performed using optimal or universal (ROSE) Buffer. Buffer ROSE is perfect for double digestion.

Source: An *E.coli* strain that carries the cloned Sma I gene from *Serratia marcescens*.

Supplied in:
10 mM Tris-HCl (pH 7.6), 50 mM NaCl, 0.1 mM EDTA, 200 µg/ml BSA, 1 mM DTT, 50% glycerol.

Reaction Conditions:
1x SE-Buffer Y or 1x SE-Buffer ROSE. Incubate at 25ºC

1X SE-Buffer Y (pH 7.9@ 25ºC): 33 mM Tris-Ac, 66 mM KAc, 10 mM MgAc, 1 mM DTT

Heat Inactivation:
Enzyme is inactivated by incubation at 65ºC for 20 min.

Unit Definition: One unit is defined as the amount of enzyme required to digest 1 µg of λ DNA (Hind III-digest) in 1 hour at 25° C in a total reaction volume of 50 µl.

Quality Control Assays
Ligation: After 2-fold overdigestion with Sma I, approximately 90% of the DNA fragments can be ligated with high-activity T4 DNA Ligase and recut. In the presence of 10 % PEG ligation is better.

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.

Oligonucleotide Assay: No detectable degradation of a single-stranded and double-stranded oligonucleotide was observed after incubation with 20 units of restriction endonuclease for 3 hours.

Reagents Supplied with Enzyme:
10x SE-Buffer Y, 10x SE-Buffer ROSE

Turbo DNA Digestion:
Applications:
-Fast DNA analysis
-Fast preparation of vectors for cloning
-Double digestion

Enzyme Properties:
1 µl of Turbo Sma I cuts 1 µg of DNA in 1x SE-Buffer Y or universal 1x SE-Buffer ROSE in 10-15 min (see the protocol below). Short time DNA digestion requires high quality purification of DNA sample. This enzyme can digest DNA at standard incubation time (1-16 hours) as well.

Turbo reaction protocol:
20 µl of the reaction volume:
Reaction Buffer (x10) - 2 µl
DNA (including plasmid) - 1-2 µl (up to 1 µg) or
PCR product (purified) - 2-5 µl (~0,2 µg)
Sterile water - up to 20 µl
+ 1 µl of Turbo Restriction Endonuclease
Incubate at 25ºC for 10-15 min