enzynomics
www.enzynomics.com
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Mse I

Cat.#	Size	Conc.
R062S	500 units	10 units/μl
R062M	1,000 units	10 units/μl
R062L	2,500 units	10 units/μl
R062H	2,500 units	50 units/μl

Expire date:

Store at -20℃

Supplied with: 10X EzBuffer IV
10X FastCut Buffer
6X DNA Loading Buffer
Sterile water

Recognition site

For Research Use Only. Not for use in diagnostic procedures.

ISO9001 ISO14001 ISO13485

Source: *Micrococcus* species

Reaction conditions
1X EzBuffer IV 37℃
1X FastCut Buffer, 37℃

FastCut Buffer
Enzynomics restriction enzyme can cut substrate DNA in 5-15 with FastCut Buffer

1X EzBuffer IV
20 mM Tris-acetate (pH 7.9 @ 25℃)
50 mM potassium acetate
10 mM magnesium acetate
100 μg/ml BSA

Unit definition
One unit is defined as the amount of enzyme required for complete digestion of 1-μg bacteriophage λ at 37℃ for 1 hr in 50-μl reaction mixtures.

Storage
10 mM Tris-HCl (pH 7.4 @ 25℃), 50 mM NaCl, 0.1 mM EDTA, 1 mM dithiothreitol, 200 μg/ml BSA, 50% glycerol.

Dilution buffer: EzDiluent A
10 mM Tris-HCl (pH 7.4 @ 25℃), 50 mM KCl, 0.1 mM EDTA, 1 mM dithiothreitol, 200 μg/ml BSA, 50% glycerol.

Heat Inactivation
Mse I can be inactivated at 65℃ for 20 min.

Methylation sensitivity
dam methylation: Not sensitive
dcm methylation: Not sensitive
CpG methylation: Not sensitive

Prolonged incubation
A minimum amount of enzyme required to digest 1-μg substrate DNA for 16 hr; 0.13 U.

Relative activity in EzBuffers

EzBuffer I:	75%
EzBuffer II:	100%
EzBuffer III:	100%
EzBuffer IV:	100%
FastCut Buffer:	100%

Note
It is not affected by *dam*, *dcm*, or mammalian CpG methylation.

Quality Control Assay

Overdigestion assay : DNA digested for 16 hr in 50-μl reaction with 100 U of enzyme resulted in same the DNA band patterns as those obtained with 1 U of enzyme for 1 hr.

Endonuclease assay: Less than 5% of 1-μg of ΦX174 RFI is converted to RFII when the DNA is incubated with 50 U of enzyme at 37℃ for 4hr in 50-μl reaction.

Ligation and recutting: More than 95% of DNA fragments (1 μg) digested with 50-fold excess enzyme can be ligated by T4 DNA ligase (400 U) at 16℃ for 16 hr. Of the ligation products, > 95% can be re-cut.

Blue/white screening: To test the integrity of DNA ends, a plasmid, pSKM2 containing a unique site in the lac Z alpha gene is digested with 10-fold excess enzyme, ligated, and introduced into DH5α. The transformed cells are plated on X-gal/IPTG/Amp plates. The number of blue and white colonies formed are measured. Blue colonies indicate that an intactness of the test gene is maintained during the cleavage/ligation process. In contrast, white colonies fail to do so. Fewer than 1% white colonies are formed with enzyme.

Extreme pure (EP): No detectable degradation of ^{32}P-end labeled single-stranded and double-stranded (5'-, 3'-overhang and blunt end) oligonucleotides occurred during incubation with 100 U of enzyme for 4 hr.

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Supplied with: 10X EzBuffer IV, 10X FastCut Buffer, 6X DNA Loading Buffer, Sterile water
Recognition site
5' ··· T T A A ··· 3'
3' ··· A A T T ··· 5'
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ISO9001 ISO14001 ISO13485

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1X FastCut Buffer, 37℃
FastCut Buffer
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Methylation sensitivity
dam methylation: Not sensitive
dcm methylation: Not sensitive
CpG methylation: Not sensitive
Prolonged incubation
A minimum amount of enzyme required to digest 1-μg substrate DNA for 16 hr; 0.13 U.
Relative activity in EzBuffers
EzBuffer I: 75%
EzBuffer II: 100%
EzBuffer III: 100%
EzBuffer IV: 100%
FastCut Buffer: 100%
Note
It is not affected by dam, dcm, or mammalian CpG methylation.
Quality Control Assay
Overdigestion assay : DNA digested for 16 hr in 50-μl reaction with 100 U of enzyme resulted in same the DNA band patterns as those obtained with 1 U of enzyme for 1 hr.
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