Thermo SCIENTIFIC

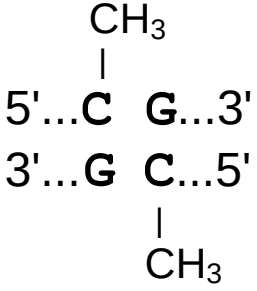
PRODUCT INFORMATION

CpG Methyltransferase (M.SssI)

Pub. No. MAN0011994
Rev. Date 15.July.2016 (Rev. B.00)

#_

Lot __ Expiry Date _



Components	#EM0821
M.SssI	25 µL
10X M.SssI Buffer	1 mL
50X (5 mM) SAM	0.1 mL

Store at -20 °C

www.thermofisher.com

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

Description

CpG Methyltransferase (M.SssI) is one of the basic tools used in epigenetic studies. The enzyme methylates the C^5 position on the base moiety of all cytosine nucleotides contained in unmethylated or hemimethylated double stranded DNA in a 5'-CpG-3' context.

Thermo Scientific M.SssI is specifically formulated for fast reaction times without compromising the reaction efficiency. The enzyme completes modification of all CpGs in 15 min at 37 °C. In addition, the enzyme has been specifically validated for use with genomic DNA – the primary substrate in epigenetic studies.

M.SssI is supplied with an optimized 10X reaction buffer and 50X S-adenosylmethionine (SAM) as a cofactor.

Storage Buffer

CpG Methyltransferase (M.SssI) is supplied in:
10 mM potassium phosphate (pH 7.0 at 25 °C),
400 mM KCl, 1 mM DTT, 1 mM EDTA, 0.2 mg/mL BSA and 50% (v/v) glycerol.

Features

- **High efficiency** - complete *in vitro* methylation of all CpG sequences in non-methylated and hemi-methylated DNA.
- **Fast** - reaction is completed in 15 min at 37 °C.
- **Stable** - at -20 °C for 2 years.

Applications

- Epigenetics studies.
- *In vitro* methylation of DNA for methylation analysis.
- Inhibition of endonucleases with overlapping CpG sequence recognition.
- [^{3}H]-labeling of DNA.

Enzyme formulation

One µL of M.SssI protects 1 µg of genomic DNA from digestion with HpaII in 15 min at 37 °C in 50 µL of recommended reaction buffer.

CERTIFICATE OF ANALYSIS

Prolonged incubation

No detectable change in DNA fragment band pattern observed following agarose gel electrophoresis of SmaI linearized pUC19 DNA incubated for 16 hours with 1 µL of M.SssI.

Labeled Oligonucleotide (LO) Assay

No detectable degradation after incubation of single-stranded or double-stranded radiolabeled oligonucleotides with M.SssI.

Quality authorized by: Jurgita Zilinskiene

Protocol

- Assemble the following reaction at room temperature:

Nuclease-free water	to 20 µL
10X M.SssI Buffer	2 µL
50X SAM	0.4 µL
DNA	up to 1 µg
M.SssI	1 µL
Total volume	20 µL

- Mix gently and spin down for a few seconds.
- Incubate at 37 °C for 15 min.
- Stop the reaction by heating at 65 °C for 20 min.

DNA can be purified by phenol extraction followed by ethanol precipitation or by using a spin column kit.