

# MspI Methyltransferase



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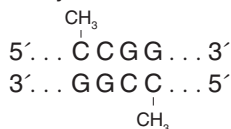
M0215S 006151017101

## M0215S



**100 units**    **5,000 U/ml**    **Lot: 0061510**  
**RECOMBINANT**    **Store at -20°C**    **Exp: 10/17**

### Methylation Site:



**Description:** MspI Methyltransferase recognizes the same sequence as the HpaII Methyltransferase, but modifies the external cytosine residue (C<sup>5</sup>) in the sequence above.

**Source:** An *E. coli* strain that carries the cloned MspI modification gene from *Moraxella* species (ATCC 49670)

Supplied in: 50 mM NaCl, 50 mM Tris-HCl (pH 7.5), 10 mM EDTA, 5 mM 2-mercaptoethanol, 200 µg/ml BSA and 50% glycerol.

### Reagents Supplied with Enzyme:

10X MspI Methyltransferase Reaction Buffer, 400X S-adenosylmethionine (32 mM).

**Reaction Conditions:** 1X MspI Methyltransferase Reaction Buffer, supplemented with 80 µM S-adenosylmethionine (supplied). Incubate at 37°C.

### 1X MspI Methyltransferase Reaction Buffer:

100 mM NaCl  
50 mM Tris-HCl  
10 mM EDTA  
5 mM 2-mercaptoethanol  
pH 7.5 @ 25°C

**Protection Assay Conditions:** MspI Methyltransferase is incubated with 1 µg of λ DNA in 10 µl 1X MspI Methyltransferase Reaction Buffer, supplemented with 80 µM S-adenosylmethionine, for one hour at 37°C followed by 15 minutes at 65°C. The extent of protection by MspI Methyltransferase is determined by the addition of 40 µl NEBuffer 2 supplemented with 10 mM MgCl<sub>2</sub> and 5 units of MspI restriction endonuclease. Incubation for MspI at 37°C is followed by analysis on agarose gels.

**Unit Definition:** One unit is defined as the amount of enzyme required to protect 1 µg λ DNA in 1 hour at 37°C in a total reaction volume of 10 µl against cleavage by MspI restriction endonuclease.

### Quality Control Assays

**16-Hour Incubation:** Incubation of 10 units of MspI Methyltransferase with 1 µg of HindIII-digested λ DNA in 50 µl 1X NEBuffer 2 for 16 hours at 37°C resulted in no detectable endonuclease contamination.

**Exonuclease Activity:** Incubation of 10 units of MspI Methyltransferase with 1 µg sonicated [<sup>3</sup>H] DNA (10<sup>5</sup> cpm/µg) for 4 hours at 37°C in 50 µl NEBuffer 2 [50 mM NaCl, 10 mM Tris-HCl (pH 7.9 @ 25°C), 10 mM MgCl<sub>2</sub>, 1 mM DTT] released < 0.05% of the total radioactivity.

**Storage of SAM:** S-adenosylmethionine (SAM) is stored at -20°C as a 32 mM solution dissolved in 0.005 M sulfuric acid and 10% ethanol. Under these conditions SAM is stable for up to 6 months. SAM is unstable at (pH 7.5), 37°C, (1) and should be replenished in reactions incubated longer than 4 hours.

Methylation can be optimized by using fresh SAM.

### Reference:

- Hoffman, J.L. (1986) *Biochemistry* 25, 4444-4449.

### Companion Product:

S-adenosylmethionine (SAM)  
#B9003S    0.5 ml

CERTIFICATE OF ANALYSIS

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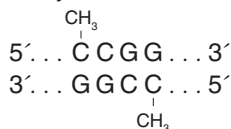
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