

## For Complete *in vitro* Methylation of DNA for Methylation Analysis



- **Methylation of chromatin DNA for DNA accessibility studies.**
- **Inhibition of endonucleases with overlapping CpG sequence recognition.**
- **[<sup>3</sup>H]-labeling of DNA.**

### Enzyme Concentration

4 units/μl.

### Unit Definition

One unit is defined as the amount of enzyme required to “protect” 1 μg of λ DNA against cleavage by BstUI restriction endonuclease in a total reaction volume of 20 μl for 1 hour at 37°C.

### Reaction Conditions

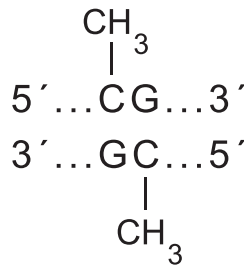
CpG Methylase in 1X CpG Reaction Buffer with 600 μM SAM. Incubate reaction mixtures at 30°C (Performing the Methylase reaction at 30°C rather than 37°C promotes optimal reaction kinetics).

### Inactivation

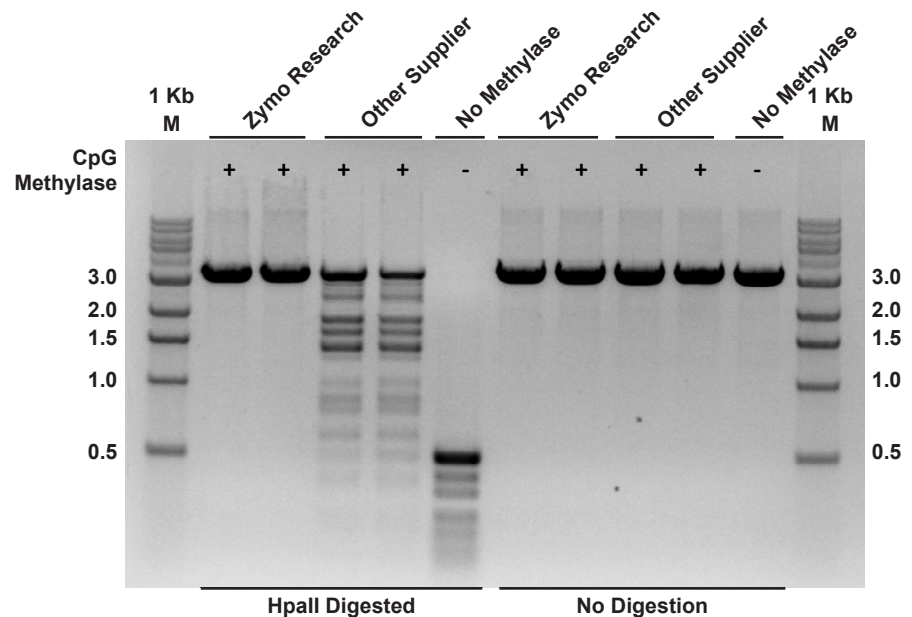
Heat-inactivate the enzyme at 65°C for 20 minutes.

### Storage

-20°C for up to 12 months. Avoid repeated freeze/thawing. Prolonged storage should be ≤ -70°C.



The CpG Methylase (EC 2.1.1.37)<sup>1</sup> from Zymo Research completely methylates all cytosine residues (C<sup>5</sup>) in double-stranded, nonmethylated and hemi-methylated DNA having the dinucleotide sequence 5'...CpG...3'. The recombinant CpG Methylase is isolated from an *E. coli* strain that expresses the methyltransferase gene from *Spiroplasma sp.* strain MQ1. The reaction conditions are designed to maximize the processivity of the enzyme to ensure *rapid*, *complete*, and *reproducible* methylation of DNA for accurate DNA methylation analysis.



The CpG Methylase from Zymo Research catalyzes complete methylation of the CpG sites in DNA. Methylase activities of CpG Methylase from Zymo Research versus that of another supplier were tested for complete methylation of equivalent amounts of a linearized plasmid DNA using reaction conditions recommended by the supplier. “Completion” of CpG methylation was assessed by resistance to digestion with a methylation-specific endonuclease (HpaII) and subsequently analyzed in an agarose gel. As shown in the figure above, the CpG Methylase from Zymo Research completely methylated the CpG sites in the DNA whereas that of the other supplier did not. Samples were assayed in duplicate.



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### Ordering Information

Product	Description	Cat. No.	Size
CpG Methylase	Methyltransferase for complete, <i>in vitro</i> DNA Methylation	E2010	200 units
		E2011	400 units

Note - ™ Trademarks of Zymo Research Corporation. This product is for research use only and should only be used by trained professionals. Wear protective gloves and eye protection. Follow the safety guidelines and rules enacted by your research institution or facility.