

SET7 Methyltransferase



M0233S



100 units **2,000 U/ml** **Lot: 0031310**
RECOMBINANT **Store at -20°C** **Exp: 10/14**

Description: SET7 Methyltransferase methylates lysine 4 (Lys 4) of histone H3 (1). Methylation occurs at the ϵ amino group of lysine residues (2,3). Di- and tri- methylation of histone H3 Lys 4 is a hallmark of transcriptionally active chromatin and is globally distributed (4,5).

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Source: SET7 enzyme is expressed from human SET7 cDNA using an *E. coli* expression system using an MBP fusion tag.

Supplied in: 50 mM Tris-HCl (pH 8.0 @25°C), 5 mM MgCl₂, 100 mM NaCl, 4 mM dithiothreitol and 50% glycerol.

Reagents Supplied with Enzyme:
10X HMT Reaction Buffer
32 mM S-adenosylmethionine (SAM)

Reaction Conditions: 1X HMT Reaction Buffer supplemented with 160 μ M S-adenosylmethionine. Incubate at 37°C.

1X HMT Reaction Buffer:
50 mM Tris-HCl
5 mM MgCl₂
4 mM dithiothreitol
(pH 9.0 @25°C)

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Unit Definition: One unit is defined as the amount of enzyme required to catalyze the transfer of 1 pmol of methyl group to synthetic peptide substrate representing the first 17 amino acids of histone H3 in a total reaction volume of 25 μ l in 10 minutes at 37°C.

Quality Assurance: Purified free of contaminating proteases.

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

Heat Inactivation: 65°C for 20 minutes.

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References:

1. Wang, H. et al. (2001) *Mol Cell*, 6, 1207–1217.
2. Xiao, B. et al. (2003) *Nature*, 421, 652–656.
3. Wilson, J.R. et al. (2002) *Cell*, 111, 105–115.
4. Schneider, R. et al. (2004) *Nat. Cell Biol.* 6, 73–77.
5. Santos-Rosa, H. et al. (2002) *Nature*, 419, 407–411.

CERTIFICATE OF ANALYSIS

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