**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 µl 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.

**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 µM 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)

**References:**