

Recombinant vSET (A612L) protein

Catalog No: 31402

Lot No: 30413001

Expressed In: *E. coli*

Quantity: 5 µg

Concentration: 0.65 µg/µl

Source: Viral

Buffer Contents: 5 µg of recombinant vSET (A612L) expressed in *E. coli* and supplied in a buffer of 30 mM HEPES, pH 7.4, 500 mM NaCl, and 2.5% 1,2-Propanediol.

Background: vSET is a viral protein encoded by *paramecium bursaria* chlorella virus 1 (PBCV-1), and has explicit methyltransferase activity for host histone H3 lysine 27. It has been shown that vSET can exert its activity by mimicking the function of EZH proteins of the mammalian Polycomb Repressive Complex 2 (PRC2) that are the only histone methyltransferases (HMTs) known to methylate H3K27. In contrast to mammalian HMTs that are monomeric and require binding partners for optimal methyltransferase activity, vSET functions as a dimer. It has been shown that vSET alone is required for global methylation of H3K27, unlike mammalian EZH2 HMT that is only capable of global H3K27 methylation in the context of the Polycomb Repressive Complex. vSET catalyzes H3K27 dimethylation and, to a lesser extent, mono- and trimethylation. It exerts activity on both free and nucleosome-associated H3.

Protein Details: Recombinant vSET (A612L) is suitable for use in histone methyltransferase (HMT) assays. Recombinant vSET (A612L) protein was expressed in *E. coli* and contains an N-terminal His-Tag (MW = 13 kDa).

Application Notes: Recombinant vSET (A612L) is suitable for use in histone methyltransferase (HMT) assays. The preferred substrate sequence for vSET is #RKXA, where # represents an amino acid with small side chain and X represents any amino acid. The binding stoichiometry of H3 peptide to vSET dimer is 1:1.

Assay conditions: Assay buffer: 20 mM Tris, pH 8.0, 20 mM KCl, 10 mM MgCl₂. We recommend a concentration of 1 µM vSET (A612L), 0.1 mM histone H3 peptide, and 1 mM S-adenosyl methionine for each assay. The reaction is performed at ambient temperature. 1% trifluoroacetic acid can be added to stop the reaction.

Storage and Guarantee: Recombinant proteins in solution are temperature sensitive and must be stored at -80°C to prevent degradation. Avoid repeated freeze/thaw cycles and keep on ice when not in storage. This product is guaranteed for 6 months from date of receipt.

This product is for research use only and is not for use in diagnostic procedures.

