Revision 1

Store at -20C

#8694

Lysine Methyltransferase Antibody Sampler Kit

1 Kit (8 x 20 microliters)

Cell Signaling TECHNOLOGY®

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Product Includes	Product #	Quantity	Mol. Wt	Isotype/Source
G9a/EHMT2 (C6H3) Rabbit mAb	3306	20 µl	160,180 kDa	Rabbit IgG
ESET (C1C12) Rabbit mAb	2196	20 µl	180 kDa	Rabbit IgG
ASH2L (D93F6) XP® Rabbit mAb	5019	20 µl	80, 65 kDa	Rabbit IgG
RBBP5 (D3I6P) Rabbit mAb	13171	20 µl	70 kDa	Rabbit IgG
SET7/SET9 Antibody	2813	20 µl	48 kDa	Rabbit
SMYD2 (D14H7) Rabbit mAb	9734	20 µl	49 kDa	Rabbit IgG
SUV39H1 (D11B6) Rabbit mAb	8729	20 µl	48 kDa	Rabbit IgG
SET8 (C18B7) Rabbit mAb	2996	20 µl	43 kDa	Rabbit IgG
Anti-rabbit IgG, HRP-linked Antibody	7074	100 µl		Goat

Please visit cellsignal.com for individual component applications, species cross-reactivity, dilutions, protocols, and additional product information.

Description

The Lysine Methyltransferase Antibody Sampler Kit provides a fast and economical means to evaluate endogenous levels of lysine methyltransferases. The kit contains enough primary antibody to perform two western blot experiments per primary antibody.

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at –20°C. Do not aliquot the antibody.

Background

SET domain-containing proteins are potential histone methyltransferases (HMTases), which are classified into subgroups by their putative substrate specificities. Histone H3 Lys9 (H3-K9) methyltransferase group genes include Suv39h1, Suv39h2, G9a, G9a related protein (GLP) and SETDB1/ESET (1). The H3-K9 methylation mark plays an important role as a binding site for the chromo-containing protein, resulting in chromatin compaction and heterochromatin generation (2). Histone H3-K4 methylation is exclusively associated with actively transcribed genes (2). The first H3-K4 methylase complex, COMPASS, was identified in the yeast S. cerevisiae and consists of Set1/KMT2 and seven other polypeptides, Cps60-Cps15 (2). Set1/KMT2 functions within COMPASS and is capable of mono-, di-, and trimethylating H3-K4 (2). There are several Set1 related proteins in mammals including WDR5, RBBP5, ASH2L, CXXC1, and DPY30 (2,3). SET7/SET9 is a member of the SET domain-containing family that can specifically methylate H3-K4, Lys189 of the TAF10, a member of the TFIID transcription factor complex, and Lys372 of the p53 tumor suppressor protein (4-6). SET domain-containing lysine methyltransferase 8 (SET8), also known as PR/SET domain-containing protein 7 (PR/SET7), is a single-subunit enzyme that mono-methylates histone H4-K20, preferably on nucleosomal substrates (7-9). SET and MYND domain-containing protein 2 (SMYD2), also known as lysine methyltransferase protein 3C (KMT3C), functions to repress transcription by interacting with the Sin3A repressor complex and methylating H3-K36 (10). SMYD2 also methylates H3-K4 through interaction with HSP90α, and methylates p53 at Lys370 to repress p53-mediated transcriptional activation and apoptosis (11,12).

Background References

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