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HRX Antibody (C-term) Blocking Peptide

Synthetic peptide
Catalog # BP1123b

Specification

HRX Antibody (C-term) Blocking Peptide - Product Information

Primary Accession	Q03164
Other Accession	NP_005924

HRX Antibody (C-term) Blocking Peptide - Additional Information

Gene ID 4297

Other Names
Histone-lysine N-methyltransferase 2A, Lysine N-methyltransferase 2A, ALL-1, CXXC-type zinc finger protein 7, Myeloid/lymphoid or mixed-lineage leukemia, Myeloid/lymphoid or mixed-lineage leukemia protein 1, Trithorax-like protein, Zinc finger protein HRX, MLL cleavage product N320, N-terminal cleavage product of 320 kDa, p320, MLL cleavage product C180, C-terminal cleavage product of 180 kDa, p180, KMT2A, ALL1, CXXC7, HRX, HTRX, MLL, MLL1, TRX1

Target/Specificity
The synthetic peptide sequence used to generate the antibody AP1123b was selected from the C-term region of human HRX. A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

HRX Antibody (C-term) Blocking Peptide - Protein Information

Name KMT2A

Synonyms ALL1, CXXC7, HRX, HTRX, MLL, MLL1, TRX1

Function
Histone methyltransferase that plays an essential role in early development and hematopoiesis (PubMed:12453419, PubMed:15960975, PubMed:19187761, PubMed:19556245,

PubMed:20677832, PubMed:21220120, PubMed:26886794). Catalytic subunit of the MLL1/MLL complex, a multiprotein complex that mediates both methylation of 'Lys-4' of histone H3 (H3K4me) complex and acetylation of 'Lys-16' of histone H4 (H4K16ac) (PubMed:12453419, PubMed:15960975, PubMed:19187761, PubMed:19556245, PubMed:20677832, PubMed:21220120, PubMed:24235145, PubMed:26886794). Catalyzes methyl group transfer from S-adenosyl-L- methionine to the epsilon-amino group of 'Lys-4' of histone H3 (H3K4) via a non-processive mechanism. Part of chromatin remodeling machinery predominantly forms H3K4me1 and H3K4me2 methylation marks at active chromatin sites where transcription and DNA repair take place (PubMed:12453419, PubMed:15960975, PubMed:19187761, PubMed:19556245, PubMed:20677832, PubMed:21220120, PubMed:25561738, PubMed:26886794). Has weak methyltransferase activity by itself, and requires other component of the MLL1/MLL complex to obtain full methyltransferase activity (PubMed:19187761, PubMed:26886794). Has no activity toward histone H3 phosphorylated on 'Thr-3', less activity toward H3 dimethylated on 'Arg-8' or 'Lys-9', while it has higher activity toward H3 acetylated on 'Lys-9' (PubMed:19187761). Binds to unmethylated CpG elements in the promoter of target genes and helps maintain them in the nonmethylated state (PubMed:20010842). Required for transcriptional activation of HOXA9 (PubMed:12453419, PubMed:20010842, PubMed:20677832). Promotes PPP1R15A-induced apoptosis (PubMed:10490642). Plays a critical role in the control of circadian gene expression and is essential for the transcriptional activation mediated by the CLOCK-BMAL1 heterodimer (By similarity). Establishes a permissive chromatin state for circadian transcription by mediating a rhythmic methylation of 'Lys-4' of histone H3 (H3K4me) and this histone modification directs the circadian acetylation at H3K9 and H3K14 allowing the recruitment of CLOCK-BMAL1 to chromatin (By similarity). Also has auto-methylation activity on Cys-3882 in absence of histone H3 substrate (PubMed:24235145).

Cellular Location
Nucleus [MLL cleavage product C180]: Nucleus. Note=Localizes to a diffuse nuclear pattern when not associated with MLL cleavage product N320

Tissue Location
Heart, lung, brain and T- and B-lymphocytes.

HRX Antibody (C-term) Blocking Peptide - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Blocking Peptides

HRX Antibody (C-term) Blocking Peptide - Images

HRX Antibody (C-term) Blocking Peptide - Background

The gene variously symbolized ALL1, HRX, or MLL located on 11q23 has been demonstrated to be fused with a number of translocation partners in cases of leukemia. Tse et al. (1995) characterized 2 t(1;11)(q21;q23) translocations that fused the MLL gene to a gene on chromosomal band 1q21, AF1Q, in 2 infants with acute myelomonocytic leukemia. In one of these patients, the derivative chromosome 11 represented an in-frame fusion of the N-terminal portion of the MLL gene to the complete AF1Q open reading frame, whereas the derivative chromosome 1 did not give rise to an open reading frame. This observation suggested that the N-terminal portion of the MLL gene is critical for leukemogenesis in translocations involving band 11q23.

HRX Antibody (C-term) Blocking Peptide - References

Megonigal, M.D., et al., Proc. Natl. Acad. Sci. U.S.A. 97(6):2814-2819 (2000).Pegram, L.D., et al., Blood 96(13):4360-4362 (2000).Sano, K., et al., Blood 95(3):1066-1068 (2000).Cui, X., et al., Nat. Genet. 18(4):331-337 (1998).Nilson, I., et al., Br. J. Haematol. 93(4):966-972 (1996).