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DNMT3A (R882SMutant) Blocking Peptide

Synthetic peptide
Catalog # BP3767a

Specification

DNMT3A (R882SMutant) Blocking Peptide - Product Information

Primary Accession	Q9Y6K1
Other Accession	NP_783328.1, NP_715640.2

DNMT3A (R882SMutant) Blocking Peptide - Additional Information

Gene ID 1788

Other Names
DNA (cytosine-5)-methyltransferase 3A, Dnmt3a, DNA methyltransferase HsaIIIA, DNA MTase HsaIIIA, MHsaIIIA, DNMT3A

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.

DNMT3A (R882SMutant) Blocking Peptide - Protein Information

Name DNMT3A

Function
Required for genome-wide de novo methylation and is essential for the establishment of DNA methylation patterns during development (PubMed:12138111, PubMed:16357870, PubMed:30478443). DNA methylation is coordinated with methylation of histones (PubMed:12138111, PubMed:16357870, PubMed:30478443). It modifies DNA in a non-processive manner and also methylates non-CpG sites (PubMed:12138111, PubMed:16357870, PubMed:30478443). May preferentially methylate DNA linker between 2 nucleosomal cores and is inhibited by histone H1 (By similarity). Plays a role in paternal and maternal imprinting (By similarity). Required for methylation of most imprinted loci in germ cells (By similarity). Acts as a transcriptional

corepressor for ZBTB18 (By similarity). Recruited to trimethylated 'Lys-36' of histone H3 (H3K36me3) sites (By similarity). Can actively repress transcription through the recruitment of HDAC activity (By similarity). Also has weak auto-methylation activity on Cys-710 in absence of DNA (By similarity).

Cellular Location
Nucleus. Chromosome Cytoplasm. Note=Accumulates in the major satellite repeats at pericentric heterochromatin {ECO:0000250|UniProtKB:O88508}

Tissue Location
Highly expressed in fetal tissues, skeletal muscle, heart, peripheral blood mononuclear cells, kidney, and at lower levels in placenta, brain, liver, colon, spleen, small intestine and lung

DNMT3A (R882SMutant) Blocking Peptide - Protocols

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

- Blocking Peptides

DNMT3A (R882SMutant) Blocking Peptide - Images

DNMT3A (R882SMutant) Blocking Peptide - Background

CpG methylation is an epigenetic modification that is important for embryonic development, imprinting, and X-chromosome inactivation. Studies in mice have demonstrated that DNA methylation is required for mammalian development. This gene encodes a DNA methyltransferase that is thought to function in de novo methylation, rather than maintenance methylation. The protein localizes to the cytoplasm and nucleus and its expression is developmentally regulated. Alternative splicing results in multiple transcript variants encoding different isoforms. [provided by RefSeq].

DNMT3A (R882SMutant) Blocking Peptide - References

Holz-Schietinger, C., et al. J. Biol. Chem. 285(38):29091-29100(2010) Kelemen, L.E., et al. Cancer Epidemiol. Biomarkers Prev. 19(7):1822-1830(2010) Park, C.W., et al. J Cardiovasc Transl Res 3(3):290-295(2010) Haggarty, P., et al. PLoS ONE 5 (6), E11329 (2010) : Zhao, Z., et al. J. Biomed. Biotechnol. 2010, 737535 (2010) :