

Recombinant Mouse ANM1 Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP51920

Size: 10ug, 100ug

Protein Name: Protein arginine N-methyltransferase 1 (EC 2.1.1.319) (Histone-arginine N-methyltransferase PRMT1)

Synonym: Prmt1, Hrmt1l2, Mrmt1

UniProt ID: Q9JIF0

UniProt Link: www.uniprot.org/uniprotkb/Q9JIF0/entry

Species Source: Mouse

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 371 AA

Molecular Weight: 42 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MAAAEAANCIMENFVATLANGMSLQPPLEEVSCGQAESSEKPN AEDMTSKDYFDSYAHFGIHEEM
LKDEVRTLTYRNSMFHNRHLFKDKVLDVGSGTGILCMFAAKAGARKVIGIECSSISDYAVKIVKANKL
DHVVTIIKGKVEEVELPVEKVDIISEWMGYCLFYESMLNTVLHARDKWLPDGLIFPD RATLYVTAIED
RQYKDYKIHWWENVYGFDMSCIKDVAIKEPLVDVDPKQLVTNACL IKEVDIYTVKVEDLTFTSPFCL
QVKRNDYVHALVAYFNIEFTRCHKRTGFSTSPESPYTHWKQTVFY MEDYLT VKTGEEIFGTIGMRPN
AKNNRDLDFITDLDFKGLCELSCSTDYRMR

3. Buffer Composition

Liquid format: PBS-based buffer containing 50% glycerol. Glycerol concentration can be customized upon customer request; please state special requirements when placing your order.

Lyophilized format: Buffer before lyophilization is PBS supplemented with 6% trehalose.

4. Storage Conditions



Upon receipt, store the product at -20 °C or -80 °C. Aliquot the product for on-demand use to preserve protein activity and prevent denaturation and inactivation caused by repeated freeze-thaw cycles.

5. Product Description

This product is recombinant Protein arginine N-methyltransferase 1 (EC 2.1.1.319) (Histone-arginine N-methyltransferase PRMT1) produced using the HEK293T eukaryotic cell expression system. It is suitable for in-vitro functional assays, protein-protein interaction studies, antibody preparation and other biomedical research applications.

Protein Function: Arginine methyltransferase that methylates (mono and asymmetric dimethylation) the guanidino nitrogens of arginyl residues present in proteins such as ESR1, histone H2, H3 and H4, FMR1, ILF3, HNRNPA1, HNRNPD, NFATC2IP, SUPT5H, TAF15, EWS, HABP4, SERBP1, RBM15, FOXO1, CHTOP, MAP3K5/ASK1, MICU1 and NPRL2 (PubMed:15327772, PubMed:19858291, PubMed:38006878). Constitutes the main enzyme that mediates monomethylation and asymmetric dimethylation of histone H4 'Arg-3' (H4R3me1 and H4R3me2a, respectively), a specific tag for epigenetic transcriptional activation (By similarity). May be involved in the regulation of TAF15 transcriptional activity, act as an activator of estrogen receptor (ER)-mediated transactivation, play a key role in neurite outgrowth and act as a negative regulator of megakaryocytic differentiation, by modulating p38 MAPK pathway (By similarity). Methylates RBM15, promoting ubiquitination and degradation of RBM15 (By similarity). Methylates MRE11 and TP53BP1, promoting the DNA damage response (By similarity). Methylates FOXO1 and retains it in the nucleus increasing its transcriptional activity. Methylates CHTOP and this methylation is critical for its 5-hydroxymethylcytosine (5hmC)-binding activity (PubMed:19858291). Methylates MAP3K5/ASK1 at 'Arg-85' and 'Arg-87' which promotes association of MAP3K5 with thioredoxin and negatively regulates MAP3K5 association with TRAF2, inhibiting MAP3K5 stimulation and MAP3K5-induced activation of JNK (By similarity). Methylates H4R3 in genes involved in glioblastomagenesis in a CHTOP- and/or TET1-dependent manner (By similarity). Plays a role in regulating alternative splicing in the heart (PubMed:30321814). Methylates NPRL2 at 'Arg-78' leading to inhibition of its GTPase activator activity and then the GATOR1 complex and consequently inducing timely mTORC1 activation under methionine-sufficient conditions (PubMed:38006878). Methylates the C-terminus of DSP, promoting its phosphorylation by GSK3B and subsequent recruitment to desmosome cell-cell junctions (By similarity).

Subcellular Localization: Nucleus . Nucleus, nucleoplasm . Cytoplasm, cytosol . Cytoplasm . Lysosome membrane . Note=Mostly found in the cytoplasm (PubMed:19858291). Colocalizes with CHTOP within the nucleus (PubMed:19858291). Low levels detected also in the chromatin fraction (PubMed:22872859). Upon methionine stimulation, localizes to the lysosome membrane in an NPRL2-dependent manner (By similarity).

6. Notes

- Avoid repeated freeze-thaw cycles to maintain protein stability and biological activity.
- Please specify special buffer-composition requirements at the time of order placement.
- For research use only. Not intended for clinical diagnosis, therapeutic use or commercial manufacturing.