Recombinant HEMK2 protein (His tag)

Catalog Number	548601
Synonyms	HemK methyltransferase family member 2; M.HsaHemK2P; Lysine N-methyltransferase 9; Methylarsonite methyltransferase N6AMT1; Methyltransferase N6AMT1; Protein N(5)-glutamine methyltransferase
Species	Human
Expression System	E. coli
Accession	Q9Y5N5
Molecular Weight	Predictes a molecular mass of 24.61 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 25 kDa band.

Product Information

Sequence Region	1-214
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>86%, by SDS-PAGE with Coomassie Brilliant Blue staining.
Endotoxin	Not tested.
Activity	Not tested.
Stability	Samples are stable for up to twelve months from date of receipt at -70℃
Protein Construction	DNA encoding 1-214 aa (Q9Y5N5) were fused with 6His tag.

Storage & Handling

Reconstitution	Reconstitute at 0.25 µg/µl in sterile water for short-term storage. Reconstitution with 50% glycerol solution is recommended for longer term storage (see Stability and Storage for more details). If a different concentration is needed for your purposes please adjust the reconstitution volume as required (please note: the ion concentration of the final solution will vary according to the volume used). Note: Centrifuge vial before opening. When reconstituting, gently pipet and wash down the sides of the vial to ensure full recovery of the protein into solution.
Storage	Store it under sterile conditions at -20℃ to -80℃. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.
Shipping	In general, recombinant proteins are provided as lyophilized powder which are shipped at ambient temperature. Bulk packages of recombinant proteins are provided as frozen liquid. They are shipped out with blue ice unless customers require otherwise.

Description

Description	Recombinant Human Methyltransferase HEMK2 (residues 1-214) is a high-purity, soluble protein fragment designed for structural and biochemical studies. This fragment encompasses the core methyltransferase domain, enabling researchers to investigate its role in histone and protein methylation, as well as its potential involvement in arsenic metabolism. Methyltransferase HEMK2 (also known as N6AMT1 or Lysine N-methyltransferase 9) is a multifunctional enzyme that methylates both proteins and arsenic compounds. As a catalytic subunit in complex with TRMT112, it monomethylates histone H4 at lysine 12 (H4K12me1), a modification present at promoters of cell cycle regulator genes. Additionally, it catalyzes N5-methylation of glutamine residues in proteins containing a Gly-Gln-Xaa-Xaa-Xaa-Arg motif, including ETF1 when complexed with ERF3 in its GTP-bound form. HEMK2 may also modulate arsenic toxicity by converting monomethylarsonous acid to less toxic dimethylarsonic acid, though it plays a secondary role to AS3MT in arsenic metabolism. The protein is primarily localized to the nucleus, consistent with its chromatin-related functions.