Recombinant KDM8 protein (His tag)

Catalog Number	545425
Synonyms	JmjC domain-containing protein 5; Jumonji C domain-containing protein 5; L-arginine (3R)-hydroxylase KDM8
Species	Human
Expression System	E. coli
Accession	Q8N371
Molecular Weight	Predictes a molecular mass of 48.93 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 51 kDa band.

Product Information

Sequence Region	1-416
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 1-416 aa (Q8N371) 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 Bifunctional Peptidase and Arginyl-Hydroxylase JMJD5 (KDM8), encompassing the full-length protein (residues 1-416), is a high-purity tool for investigating its dual enzymatic roles in histone modification and arginine hydroxylation. This fragment includes the complete JmjC domain, making it ideal for functional studies on epigenetic regulation, cell cycle progression, and mitotic control. JMJD5 (encoded by the KDM8 gene) is a bifunctional enzyme with endopeptidase and 2-oxoglutarate-dependent monooxygenase activities. As an endopeptidase, it cleaves histone N-terminal tails at methylated arginine or lysine residues, generating 'taulless nucleosomes' that may promote transcription elongation, and it processes histones H2, H3, and H4, with a role in DNA damage response by targeting monomethylated H3K9. Its monooxygenase function catalyzes (R)-stereospecific hydroxylation of arginine residues in proteins like RPS6 and RCCD1. JMJD5 regulates mitosis by influencing H3K36 methylation in centromeric regions, ensuring proper spindle organization and chromosome segregation. It also controls cell cycle progression by repressing CDKN1A/p21, modulating CCNA1/cyclin-A1 expression, and stabilizing microtubules via alpha-tubulin acetylation. Additionally, it contributes to circadian rhythm regulation by repressing CLOCK-BMAL1 activity and promoting CRY1 degradation. The protein localizes to the nucleus and chromosomes, associating with histone modifications such as H3K9me3, underscoring its significance in epigenetic and cellular processes.