

JMJD2A Protein, Human

Cat. No.:	HY-P701618
Synonyms:	KDM4A; Lysine-specific demethylase 4A; JmjC domain-containing histone demethylation protein 3A; Jumonji domain-containing protein 2A; [histone H3]-trimethyl-L-lysine(36) demethylase 4A; [histone H3]-trimethyl-L-lysine(9) demethylase 4A
Species:	Human
Source:	E. coli
Accession:	O75164 (M1-L359)
Gene ID:	9682
Molecular Weight:	

PROPERTIES

Appearance	Solution.
Formulation	Supplied as a 0.22 µm filtered solution of 50 mM Tris-HCl, pH7.5, 200 mM NaCl, 20% glycerol.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	Please use rapid thawing with running water to thaw the protein.
Storage & Stability	Stored at -80°C for 1 year. It is stable at -20°C for 3 months after opening. It is recommended to freeze aliquots at -80°C for extended storage. Avoid repeated freeze-thaw cycles.
Shipping	Shipping with dry ice.

DESCRIPTION

Background	JMJD2A Protein, a histone demethylase central to the intricate histone code, specifically targets 'Lys-9' and 'Lys-36' residues of histone H3. Notably, it does not demethylate histone H3 'Lys-4,' H3 'Lys-27,' nor H4 'Lys-20.' Its demethylase activity is confined to trimethylated H3 'Lys-9' and H3 'Lys-36' residues, with no discernible effect on mono- and dimethylated residues. This demethylation process generates formaldehyde and succinate as byproducts. JMJD2A participates in the transcriptional repression of ASCL2 and E2F-responsive promoters by recruiting histone deacetylases and NCOR1, respectively. With a critical role in muscle differentiation, JMJD2A promotes the transcriptional activation of the Myog gene by orchestrating the removal of repressive chromatin marks at its promoter. Noteworthy is the absence of the N-terminal demethylase domain in JMJD2A, highlighting its unique structural features and functional significance in chromatin dynamics and gene regulation.
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Caution: Product has not been fully validated for medical applications. For research use only.

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