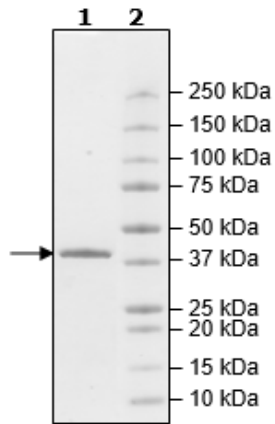


Product Information

Description:	Recombinant human JMJD2A, also known KDM4A (lysine-specific demethylase 4A), encompassing amino acids 1-350. This construct contains an N-terminal His-tag (6xHis). This protein was affinity purified.
Background:	JMJD2A, also known as KDM4A (lysine-specific demethylase 4A), belongs to the Jumonji domain 2 family of proteins and the alpha-ketoglutarate-dependent hydroxylase superfamily and is involved in epigenetic regulation of transcription factors. Its action impacts cell proliferation and development. It converts trimethylated histones on histone H3 lysines 9 and 36 specifically (H3K9me2/3 and H3K9me2/me3) into demethylated forms. It is involved in myogenic differentiation by inhibiting Gas-9-dependent MyoD (myoblast determination protein 1) degradation, being a key regulator of skeletal muscle development and regeneration. It has been linked to cancer, and overexpression of JMJD2A is found in colon and lung cancer. It seems to promote cancer progression by regulating other oncogenes. Inhibition of JMJD2A in cancer lines was able to lead to cell cycle arrest and cancer metastasis. A deeper understanding of its functions and development of targeted therapies may prove beneficial for patients with JMJD2A-related diseases.
Species:	Human
Construct:	JMJD2A (His-1-350)
Concentration:	0.90 mg/ml
Expression System:	<i>E. coli</i>
Purity:	≥90%
Format:	Aqueous buffer solution.
Formulated In:	40 mM Tris-HCl, pH 8.0, 110 mM NaCl, 2.2 mM KCl, 160 mM imidazole, and 20% glycerol
MW:	42 kDa
Genbank Accession:	NM_014663
Stability:	At least 6 months at -80°C.
Storage:	-80°C
Instructions for Use:	Thaw on ice and gently mix prior to use. DO NOT VORTEX. Perform a quick spin before opening. Aliquot into small volumes and flash freeze for long term storage. Avoid multiple freeze/thaw cycles.
Specific Activity:	0.084 pmol/min/μg
Assay Conditions:	A 10 μl reaction mix containing assay buffer (20 mM HEPES (pH 7.4), 150 mM NaCl, 500 μM α-ketoglutarate, 25 μM iron, 2 mM ascorbic acid, 0.01% Tween-20), 0.5 μM biotinylated peptide substrate, and JMJD2A (100-400 ng) was added to the wells. An antibody against demethylated K9 peptide was added and the reactions were incubated for 30 minutes. Streptavidin-conjugated secondary antibody was added, followed by Alpha Screening detection.
Applications:	Useful for the study of enzyme kinetics, screening inhibitors, and selectivity profiling.

Quality Control Data

4-20% SDS-PAGE Coomassie Staining



JMJD2A Activity

