

## Recombinant JARID1A / KDM5A protein

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**Catalog No:** 31431, 31831

**Expressed In:** Baculovirus

**Quantity:** 20, 1000 µg

**Concentration:** 0.5 µg/µl

**Source:** Human

**Buffer Contents:** Full length recombinant JARID1A / KDM5A protein is supplied in 25 mM HEPES pH 7.5, 300 mM NaCl and 5% glycerol. Please refer to product insert upon arrival for lot-specific concentration.

**Background:** **Lysine (K)-specific demethylase 5A (KDM5A)**, also known as **Jumonji, AT rich interactive domain 1A (JARID1A)**, is a histone demethylase that specifically demethylates lysine 4 of histone H3 (H3K4), thereby playing a central role in defining the histone code. KDM5A demethylates trimethylated and dimethylated, but not monomethylated H3K4. It does not demethylate histone H3K9, H3K27, H3K36, H3K79 or H4K20. KDM5A may function to stimulate transcription mediated by nuclear receptors and may be involved in transcriptional regulation of HOX proteins during cell differentiation. Also, KDM5A may be involved in the transcriptional repression of cytokines such as CXCL12. It has been shown to bind directly with the Retinoblastoma (pRb) protein which regulates cell proliferation. KDM5A also interacts with Rhombotin-2 which functions distinctly in erythropoiesis and in T-cell leukemogenesis.

**Protein Details:** Recombinant JARID1A / KDM5A (accession number NP\_001036068.1) was expressed in Sf9 and contains an N-terminal FLAG-Tag with a molecular weight of 196.3 kDa. The recombinant protein is >85% pure by SDS-PAGE.

**Application Notes:** Recombinant JARID1A / KDM5A is suitable for use in the study of enzyme kinetics, inhibitor screening, and selectivity profiling.

**Specific Activity:** H3K4me3 demethylase.

**Catalytic rate:** > 60 turnovers/ enzyme molecule

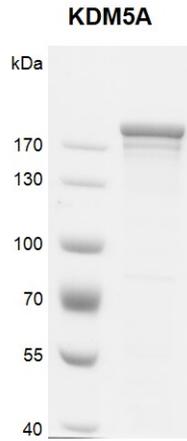
**Histone Demethylase Assay Conditions:** 3.3 µM H3K4me3 (aa 1-21) peptide was incubated with different concentrations of recombinant JARID1A / KDM5A protein in reaction buffer containing 50 mM HEPES pH 7.5, 0.02% Triton X100, 100 µM ZOG, 100 µM Ascorbate, 50 µM (NH<sub>4</sub>)<sub>2</sub>Fe(SO<sub>4</sub>)<sub>2</sub>·6H<sub>2</sub>O, 1 mM TCEP for 1 hours at room temperature. HTRF and MALDI-TOF were used for detection.

### References:

This product was used in the following publications:  
*Cell Death Dis.* (2018). 9(10): 1038. PMID: 30305606.

**Storage and Guarantee:** Recombinant proteins in solution are temperature sensitive and must be stored at -80°C to prevent degradation. Avoid repeated freeze/thaw cycles and keep on ice when not in storage. This product is guaranteed for 6 months from date of receipt.

This product is for research use only and is not for use in diagnostic procedures.



**Recombinant JARID1A / KDM5A protein gel.**

JARID1A / KDM5A protein was run on an 8% SDS-PAGE gel and stained with Coomassie Blue.

**Recombinant JARID1A / KDM5A protein activity assay.**

3.3  $\mu$ M H3K4me3 peptide was incubated with 100 nM JARID1A / KDM5A in reaction buffer for 2 hours at room temperature. The reaction product was detected by MALDI-TOF. Single 3.3  $\mu$ M H3K4me3 peptide was used as negative control.

Catalytic Ability: >60 turnovers/ enzyme molecule

