Recombinant JMJD2C / KDM4C protein

Catalog No: 31458, 31858
Expressed In: Baculovirus

Quantity: 20 µg
Concentration: 0.4 µg/µl
Source: Human

Buffer Contents: Recombinant JMJD2C / KDM4C protein is supplied at a concentration of 0.4 µg/µl in 25 mM HEPES-NaOH pH 7.5, 300 mM NaCl, 5% glycerol, 0.04% Triton X-100, 0.2 mM TCEP.

Background: KDM4C (lysine (K)-specific demethylase 4C), also known as **JMJD2C (Jumonji Domain Containing 2C)** is a nuclear protein that functions as a histone demethylase that preferentially demethylates di- and trimethylated lysine 9 (K9me3) and lysine 36 (K36me3) residues of histone H3, converting these trimethylated histone residues to mono- or dimethylated form. JMJD2C / KDM4C has no activity for monomethylated H3K9 and H3K36. Chromosomal aberrations and overexpression of KDM4C are associated with esophageal squamous cell carcinoma. KDM4C regulates colonosphere formation in colorectal cancers by mediating the crosstalk between Wnt and Notch signaling pathways.

Protein Details: Recombinant JMJD2C / KDM4C (accession number NP_055876.2) was expressed in Sf9 cells and contains an N-terminal 6xHis-Tag and a FLAG-Tag with a calculated molecular weight of 124.1 kDa. The recombinant protein is >95% pure by SDS-PAGE.

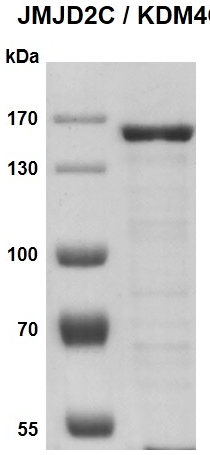
Application Notes: Recombinant JMJD2C / KDM4C is suitable for use in the study of enzyme kinetics, inhibitor screening, and selectivity profiling

Histone Demethylase Assay Conditions: 1 µM H3K9me3 peptide was incubated with different concentrations of JMJD2C / KDM4C protein in 10 µl reaction system containing 50 mM HEPES-NaOH pH 7.5, 1 mM TCEP, 50 µM 2-OG, 50 µM Ascorbate, 25 µM (NH4)2Fe(SO4)2·6H2O for 1 hour, then 10 µl H3K9me2 antibody and SA-XL665 mixture (1:100 dilution in HTRF Detection Buffer) was added to each reaction system and incubated for 30 min. All the operations and reactions were performed at room temperature. HTRF assay was used for detection.

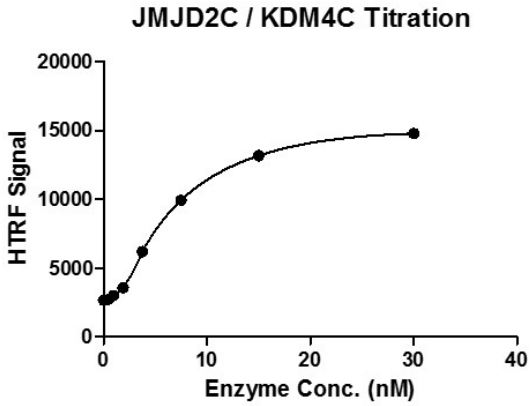
References: This protein is described in the following references:
Whetstine JR *et al.* (2006) Cell 125:467-481
Cell Death Dis. (2018). 9(10): 1038. PMID: 30305606.

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.

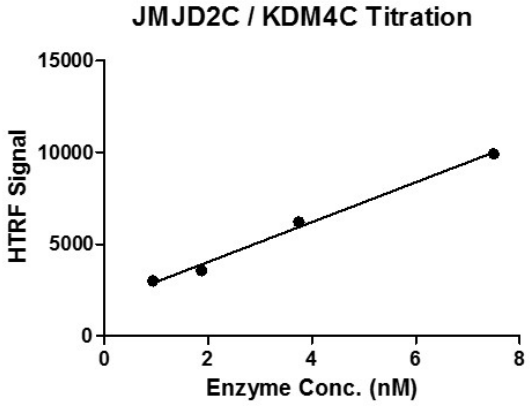
This product is for research use only and is not for use in diagnostic procedures.



Recombinant JMJD2C / KDM4C protein gel.
JMJD2C / KDM4C protein was run on an 8% SDS-PAGE gel and stained with Coomassie Blue.
MW: 126.1 kDa
Purity: > 90%



JMJD2C / KDM4C activity assay.1 µM H3K9me3 peptide was incubated with different concentrations of JMJD2C / KDM4C protein in 10 µl reaction system containing 50 mM HEPES-NaOH pH 7.5, 1 mM TCEP, 50 µM 2-OG, 50 µM Ascorbate, 25 µM (NH4)2Fe(SO4)2·6H2O for 1 hour, then 10 µl H3K9me2 antibody and SA-XL665 mixture (1:100 dilution in HTRF Detection Buffer) was added to each reaction system and incubated for 30 min. All the operations and reactions were performed at room temperature. HTRF assay was used for detection.



JMJD2C / KDM4C activity assay.1 µM H3K9me3 peptide was incubated with different concentrations of JMJD2C / KDM4C protein in 10 µl reaction system containing 50 mM HEPES-NaOH pH 7.5, 1 mM TCEP, 50 µM 2-OG, 50 µM Ascorbate, 25 µM (NH4)2Fe(SO4)2·6H2O for 1 hour, then 10 µl H3K9me2 antibody and SA-XL665 mixture (1:100 dilution in HTRF Detection Buffer) was added to each reaction system and incubated for 30 min. All the operations and reactions were performed at room temperature. HTRF assay was used for detection.