

# PRODUCT INFORMATION



## JMJD2E Strep-tagged (human, recombinant)

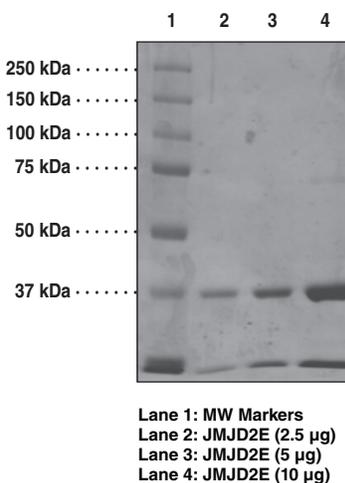
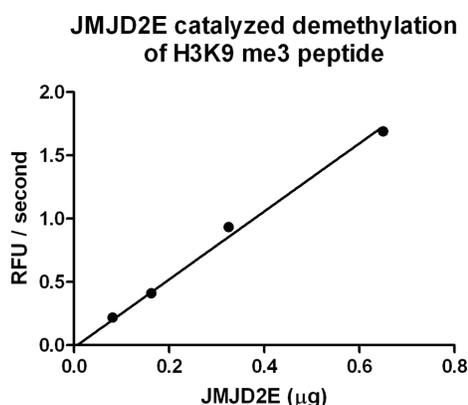
Item No. 11237

### Overview and Properties

**Synonyms:** Jumonji Domain Containing 2E, KDM4D-Like  
**Source:** Active recombinant N-terminal Strep II-tagged protein expressed in *E. coli*  
**Amino Acids:** 2-337  
**Uniprot No.:** B2RXH2  
**Molecular Weight:** 40.8 kDa  
**Storage:** -80°C (as supplied)  
**Stability:** ≥6 months  
**Purity:** *batch specific* (≥75% estimated by SDS-PAGE)  
**Supplied in:** 20 mM HEPES, pH 7.4, and 150 mM sodium chloride  
**Protein Concentration:** *batch specific* mg/ml  
**Activity:** *batch specific* U/ml  
**Specific Activity:** *batch specific* U/mg  
**Unit Definition:** One unit is defined as the amount of enzyme required to produce 1 nmol of NADH per minute at 37°C in 50 mM HEPES buffer, pH 7.4, containing 50 mM sodium chloride, 1 mM ascorbic acid, 50 μM ferrous ammonium sulfate, 1 mM NAD<sup>+</sup>, 1 mM α-ketoglutarate, 0.1 μM FDH, and 125 μM H3K9me3 peptide.

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Images



**WARNING**  
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

**SAFETY DATA**  
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

**WARRANTY AND LIMITATION OF REMEDY**  
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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## Description

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Methylation of lysine residues in core histones plays a critical role in regulating gene expression.<sup>1</sup> Jumonji domain containing 2E (JMJD2E) catalyzes the demethylation of histone H3 at lysine residue 9.<sup>2</sup> Like other JmjC protein hydroxylase family members, JMJD2E is an  $\alpha$ -ketoglutarate-dependent Fe (II) oxygenase.<sup>3</sup> Purification of Fe-dependent JmjC family members by IMAC can result in displacement of the catalytic iron and decreased activity, therefore this Strep-tagged protein is purified by affinity chromatography using Strep-Tactin coated resin.<sup>4</sup> Because of their implication in cancer cell growth, jumonji C domain-containing histone demethylase inhibitors may have the capacity to be anticancer agents.<sup>1</sup>

## References

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1. Hamada, S., Kim, T.-D., Suzuki, T., *et al.* Synthesis and activity of N-oxalylglycine and its derivatives as Jumonji C-domain-containing histone lysine demethylase inhibitors. *Bioorg. Med. Chem. Lett.* **19**, 2852-2855 (2009).
2. Kouzarides, T. Chromatin modifications and their function. *Cell* **128**, 693-705 (2007).
3. Couture, J.-F., Collazo, E., Ortiz-Tello, P.A., *et al.* Specificity and mechanism of JMJD2A, a trimethyllysine-specific histone demethylase. *Nat. Struct. Mol. Biol.* **14**(8), 689-695 (2007).
4. Krishnan, S., Collazo, E., Ortiz-Tello, P.A., *et al.* Purification and assay protocols for obtaining highly active Jumonji C demethylases. *Anal. Biochem.* **420**, 48-53 (2012).

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