

Recombinant Mouse EZH2 Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP51637

Size: 10ug, 100ug

Protein Name: Histone-lysine N-methyltransferase EZH2 (EC 2.1.1.356) (ENX-1) (Enhancer of zeste homolog 2)

Synonym: Ezh2, Enx1h

UniProt ID: Q61188

UniProt Link: www.uniprot.org/uniprotkb/Q61188/entry

Species Source: Mouse

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 746 AA

Molecular Weight: 85 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MGQTGKKSEKGPVCWRKRVKSEYMRLRQLKRFRRADEVKTMFSSNRQKILERTETLNQEWKQRRRI
QPVHIMTSVSSLRGTRCSVTSDLDFPAQVIPLKTLNAVASVPIMYSWSPLQQNFMVEDETVLHNIPY
MGDEVLDQDGTFFIEELIKNYDGKVHGDRECGFINDEIFVELVNALGQYNDDDDDDGDDPDEREEK
QKDLEDNRDDKETCPPRKFPADKIFEAISSMFPDKGTAEELKEYKELTEQQLPGALPPECTPNIDGP
NAKSVQREQSLHSFHTLFCRRCFKYDCFLHPFHATPNTYKRKNTETALDNKPCGPQCYQHLEGAKE
FAAALTAERIKTPPKRPGGRRRGRLPNSSRPSTPTISVLESKDTDSREAGTETGGENNDKEEEEK
KDETSSSSEANSRCQTPIKMKPNIEPPENVEWSGAEASMFRLVIGTYDYNFCAIARLIGTKTCRQVYE
FRVKESSIIAPVPTEDVDTPPRKKRKHRLWAAHCRKIQLKKGSSNHVYNYQPCDHPRQPCDSSC
PCVIAQNFCEKFCQCSSECQNRFPGCRCKAQCNKQCPCYLAVRECDPDLCLTCGAADHWDSKNV
SCKNCISIQRGSKKHLLAPSDVAGWGIFIKDPVQKNEFISEYCGEIIISQDEADRRGKVYDKYMCSFLF
NLNDFVVDATRKGNKIRFANHSVNPNCYAKVMMVNGDHRIGIFAKRAIQTGEELFFDYRYSQADAL
KYVGIEREMEIP

3. Buffer Composition

Liquid format: PBS-based buffer containing 50% glycerol. Glycerol concentration can be customized upon customer request; please state special requirements when placing your order.

Lyophilized format: Buffer before lyophilization is PBS supplemented with 6% trehalose.

4. Storage Conditions

Upon receipt, store the product at -20 °C or -80 °C. Aliquot the product for on-demand use to preserve protein activity and prevent denaturation and inactivation caused by repeated freeze-thaw cycles.

5. Product Description

This product is recombinant Histone-lysine N-methyltransferase EZH2 (EC 2.1.1.356) (ENX-1) (Enhancer of zeste homolog 2) produced using the HEK293T eukaryotic cell expression system. It is suitable for in-vitro functional assays, protein-protein interaction studies, antibody preparation and other biomedical research applications.

Protein Function: Catalytic subunit of the PRC2/EED-EZH2 complex, a Polycomb group (PcG) complex that methylates 'Lys-9' (H3K9me) and 'Lys-27' (H3K27me) of histone H3, leading to transcriptional repression of the affected target gene (PubMed:12689588, PubMed:15516932, PubMed:15520282, PubMed:16717091, PubMed:19026780, PubMed:31914400). Able to mono-, di- and trimethylate 'Lys-27' of histone H3 to form H3K27me1, H3K27me2 and H3K27me3, respectively (PubMed:16717091, PubMed:18086877). Displays a preference for substrates with less methylation, loses activity when progressively more methyl groups are incorporated into H3K27, H3K27me0 > H3K27me1 > H3K27me2 (By similarity). Compared to EZH1-containing complexes, it is more abundant in embryonic stem cells and plays a major role in forming H3K27me3, which is required for embryonic stem cell identity and proper differentiation (By similarity). The PRC2/EED-EZH2 complex may also serve as a recruiting platform for DNA methyltransferases, thereby linking two epigenetic repression systems (By similarity). Genes repressed by the PRC2/EED-EZH2 complex include HOXC8, HOXA9, MYT1, CDKN2A and retinoic acid target genes (PubMed:18086877). EZH2 can also methylate non-histone proteins such as the transcription factor GATA4 and the nuclear receptor RORA (By similarity). Regulates the circadian clock via histone methylation at the promoter of the circadian genes (PubMed:16717091). Essential for the CRY1/2-mediated repression of the transcriptional activation of PER1/2 by the CLOCK-BMAL1 heterodimer; involved in the di and trimethylation of 'Lys-27' of histone H3 on PER1/2 promoters which is necessary for the CRY1/2 proteins to inhibit transcription (PubMed:16717091).

Subcellular Localization: Nucleus . Chromosome. Note=Localizes to the inactive X chromosome in trophoblast stem cells.

6. Notes

- Avoid repeated freeze-thaw cycles to maintain protein stability and biological activity.
- Please specify special buffer-composition requirements at the time of order placement.
- For research use only. Not intended for clinical diagnosis, therapeutic use or commercial manufacturing.