

Recombinant Human EZH2 Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP50290

Size: 10ug, 100ug

Protein Name: Histone-lysine N-methyltransferase EZH2 (EC 2.1.1.356) (ENX-1) (Enhancer of zeste homolog 2) (Lysine N-methyltransferase 6)

Synonym: EZH2, KMT6

UniProt ID: Q15910

UniProt Link: www.uniprot.org/uniprotkb/Q15910/entry

Species Source: Human

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 746 AA

Molecular Weight: 85 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MGQTGKKSEKGPVCWRKRVKSEYMRLRQLKRFRRADEVKSMFSSNRQKILERTEILNQEWKQRRRI
QPVHILTSVSSLRGTRCSVTSDLDFPTQVIPLKTLNAVASVPIMYSWSPLQQNFMVEDETVLHNIPY
MGDEVLDQDGTFFIEELIKNYDGKVHGDRECGFINDEIFVELVNALGQYNDDDDDDGDDPEEREK
QKDLEDHRDDKESRPPRKFPSPDKIFEAISSMFPDKGTAEELKEYKELTEQQLPGALPPECTPNIDG
PNAKSVQREQSLHSFHTLFCRRCKFYDCFLHPFHATPNTYKRKNTETALDNKPCGPQCYQHLEGAK
EFAAALTAERIKTPPKRPGGRRRGRLPNNSSRPSTPTINVLESKDTSDREAGTETGGENNDKEEEE
KKDETSSSSSEANSRCQTPIKMKPNIEPPENVEWSGAEASMFRVLIGTYDYNFCAIARLIGTKTCRQVY
EFRVKESSIIAPAPAEDVDTPPRKKKRKHLWAAHCRKIQLKKGSSNHVYNYQPCDHPRQPCDSS
CPCVIAQNFCEKFCQCSSECQNRFPGCRCKAQCNKQCPCYLAVRECDPDLCLTCGAADHWDSKN
VSKCNCSIQRGSKKHLALLAPSDVAGWGIFIKDPVQKNEFISEYCGEIIISQDEADRRGKVYDKYMCSFL
FNLNDFVVDATRKGNKIRFANHSVNPNCYAKVMMVNGDHRIGIFAKRAIQTGEELFFDYRYSQADA
LKYVGIEREMEIP

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) (Lysine N-methyltransferase 6) 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:14532106, PubMed:15225548, PubMed:15385962, PubMed:16618801, PubMed:16936726, PubMed:17344414, PubMed:22323599, PubMed:24474760, PubMed:26581166, PubMed:30026490, PubMed:30923826). Able to mono-, di- and trimethylate 'Lys-27' of histone H3 to form H3K27me1, H3K27me2 and H3K27me3, respectively (PubMed:15231737, PubMed:17210787, PubMed:18285464, PubMed:22323599, PubMed:30923826). Displays a preference for substrates with less methylation, loses activity when progressively more methyl groups are incorporated into H3K27, H3K27me0 > H3K27me1 > H3K27me2 (PubMed:22323599, PubMed:30923826). 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 (PubMed:19026781). The PRC2/EED-EZH2 complex may also serve as a recruiting platform for DNA methyltransferases, thereby linking two epigenetic repression systems (PubMed:16357870, PubMed:17200670). Genes repressed by the PRC2/EED-EZH2 complex include HOXC8, HOXA9, MYT1, CDKN2A and retinoic acid target genes (PubMed:16179254, PubMed:18086877, PubMed:20935635). EZH2 can also methylate non-histone proteins such as the transcription factor GATA4 and the nuclear receptor RORA (PubMed:23063525). 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 (By similarity).

Subcellular Localization: Nucleus . 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.