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KD-Validated Anti-EZH2 Mouse Monoclonal Antibody

Mouse monoclonal antibody
Catalog # AGI1998

Product Information

Application	WB, FC, ICC
Primary Accession	Q15910
Reactivity	Human
Clonality	Monoclonal
Isotype	Mouse IgG1 kappa
Clone Names	24GB7200
Calculated MW	85363
Gene Name	EZH2
Aliases	EZH2; Enhancer Of Zeste 2 Polycomb Repressive Complex 2 Subunit 2; ENX-1; KMT6; KMT6A; Histone-Lysine N-Methyltransferase EZH2; Lysine N-Methyltransferase 6; Enhancer Of Zeste Homolog 2; EZH1; Enhancer Of Zeste (Drosophila) Homolog 2; Enhancer Of Zeste Homolog 2 (Drosophila); EC 2.1.1.356; EC 2.1.1.43; EC 2.1.1; EZH2b; ENX1; WVS2; WVS
Immunogen	Recombinant protein of human EZH2

Additional Information

Gene ID	2146
Other Names	Histone-lysine N-methyltransferase EZH2, 2.1.1.356, ENX-1, Enhancer of zeste homolog 2, Lysine N-methyltransferase 6, EZH2 (HGNC:3527), KMT6

Protein Information

Name	EZH2 (HGNC:3527)
Synonyms	KMT6
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).

Cellular Location

Nucleus. Note=Localizes to the inactive X chromosome in trophoblast stem cells. {ECO:0000250|UniProtKB:Q61188}

Tissue Location

In the ovary, expressed in primordial follicles and oocytes and also in external follicle cells (at protein level) (PubMed:31451685). Expressed in many tissues (PubMed:14532106) Overexpressed in numerous tumor types including carcinomas of the breast, colon, larynx, lymphoma and testis (PubMed:14532106)

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