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KD-Validated Anti-KMT6/EZH2 Rabbit Monoclonal Antibody

Rabbit monoclonal antibody
Catalog # AGI2399

Product Information

Application	WB, FC, ICC
Primary Accession	Q15910
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Isotype	Rabbit IgG
Clone Names	23GB835
Calculated MW	85363
Gene Name	EZH2
Aliases	Enhancer Of Zeste 2 Polycomb Repressive Complex 2 Subunit; 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	A synthesized peptide derived from human KMT6 / 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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