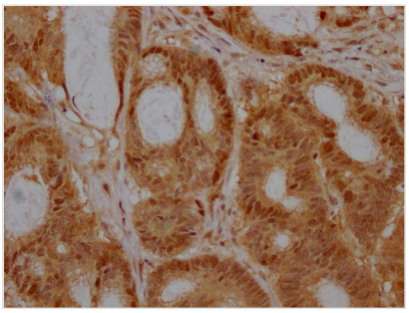
EZH2 Recombinant Monoclonal Antibody

Product Code	CSB-RA218051A0HU
Storage	Upon receipt, store at -20°C or -80°C. Avoid repeated freeze.
Uniprot No.	Q15910
Immunogen	A synthesized peptide derived from human KMT6 / EZH2
Species Reactivity	Human
Tested Applications	ELISA, IHC; Recommended dilution: IHC:1:50-1:200
Relevance	Polycomb group (PcG) protein. Catalytic subunit of the PRC2/EED-EZH2 complex, which methylates 'Lys-9' (H3K9me) and 'Lys-27' (H3K27me) of histone H3, leading to transcriptional repression of the affected target gene. Able to mono-, di- and trimethylate 'Lys-27' of histone H3 to form H3K27me1, H3K27me2 and H3K27me3, respectively. Displays a preference for substrates with less methylation, loses activity when progressively more methyl groups are incorporated into H3K27, H3K27me0 > H3K27me1 > H3K27me2 (PubMed:22323599). 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. The PRC2/EED-EZH2 complex may also serve as a recruiting platform for DNA methyltransferases, thereby linking two epigenetic repression systems. Genes repressed by the PRC2/EED-EZH2 complex include HOXC8, HOXA9, MYT1, CDKN2A and retinoic acid target genes. EZH2 can also methylate non-histone proteins such as the transcription factor GATA4 and the nuclear receptor RORA. Regulates the circadian clock via histone methylation at the promoter of the circadian genes. Essential for the CRY1/2-mediated repression of the transcriptional activation of PER1/2 by the CLOCK-ARNTL/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.
Form	Liquid
Conjugate	Non-conjugated
Storage Buffer	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Purification Method	Affinity-chromatography
Isotype	Rabbit IgG
Clonality	Monoclonal
Product Type	Recombinant Antibody
Immunogen Species	Homo sapiens (Human)
Research Area	Epigenetics and Nuclear Signaling; Cancer
Gene Names	EZH2
Clone No.	10H8

Image



IHC image of CSB-RA218051A0HU diluted at 1:100 and staining in paraffin-embedded human colon cancer performed on a Leica BondTM system. After dewaxing and hydration, antigen retrieval was mediated by high pressure in a citrate buffer (pH 6.0). Section was blocked with 10% normal goat serum 30min at RT. Then primary antibody (1% BSA) was incubated at 4? overnight. The primary is detected by a Goat anti-rabbit IgG polymer labeled by HRP and visualized using 0.05% DAB.

Description

The EZH2 recombinant monoclonal antibody is produced using a combination of protein technology and DNA recombinant technology. Initially, mice were injected with a synthesized peptide that was derived from human EZH2 to stimulate the production of antibodies. After a specific period of time, the spleen was extracted from the mice under sterile conditions, and the cDNA synthesized from RNA reverse transcription was utilized as a template to amplify the EZH2 antibody gene by PCR. The amplified EZH2 antibody gene was then inserted into a vector, which was transfected into host cells for cultivation. The EZH2 recombinant monoclonal antibody is purified from the cell culture supernatant via affinity chromatography. It underwent stringent testing and has been validated for use in ELISA and IHC experiments to detect human EZH2 protein.

The EZH2 protein is the catalytic subunit of the Polycomb repressive complex 2 (PRC2) and is involved in gene silencing through histone modification. EZH2 functions as a histone methyltransferase that specifically methylates H3K27 using S-adenosylmethionine (SAM) as a cofactor, resulting in transcriptional repression of target genes. The H3K27me3 mark generated by EZH2 is recognized by other PRC2 components, leading to further chromatin compaction and inhibition of transcriptional activity. Dysregulation of EZH2 has been implicated in the development and progression of various cancers.