10320 Camino Santa Fe, Suite G
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EZH2 Antibody
Purified Mouse Monoclonal Antibody (Mab)
Catalog # AM1836A

Specification

EZH2 Antibody - Product Information

Application	**IF, WB, IHC-P, IHC,E**
Primary Accession	Q15910
Other Accession	Q4R381
Reactivity	**Human**
Predicted	**Monkey**
Host	**Mouse**
Clonality	**Monoclonal**
Isotype	**IgG1,IgK**

EZH2 Antibody - Additional Information

Gene ID 2146

Other Names
Histone-lysine N-methyltransferase EZH2, ENX-1, Enhancer of zeste homolog 2, Lysine N-methyltransferase 6, EZH2, KMT6

Target/Specificity
This EZH2 antibody is generated from mouse immunized with EZH2 recombinant protein.

Dilution
IF~~1:25
WB~~1:2000
IHC-P~~1:25
IHC~~1:50

Format
Purified monoclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein G column, followed by dialysis against PBS.

Storage
Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
EZH2 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

EZH2 Antibody - Protein Information

Name EZH2 (HGNC:3527)

Synonyms KMT6

Function 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, 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. 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-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.

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

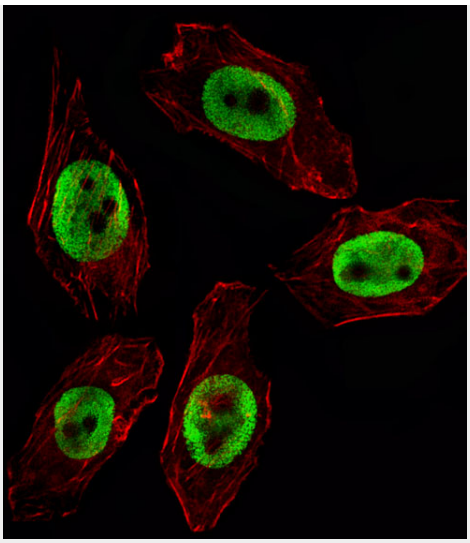
Tissue Location
In the ovary, expressed in primordial follicles and oocytes and also in external follicle cells (at protein level) (PubMed:31451685). Expressed in many tissues (PubMed:14532106) Overexpressed in numerous tumor types including carcinomas of the breast, colon, larynx, lymphoma and testis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

EZH2 Antibody - Protocols

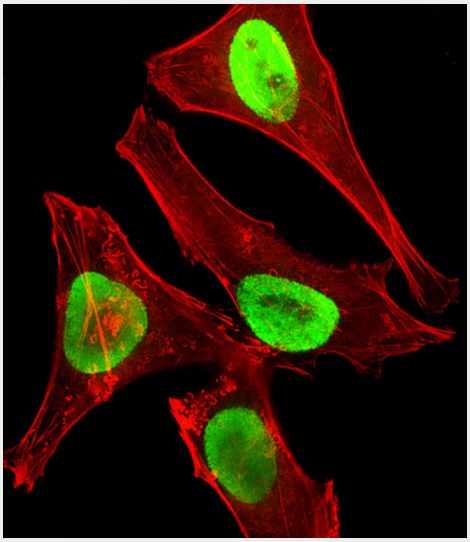
Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

EZH2 Antibody - Images

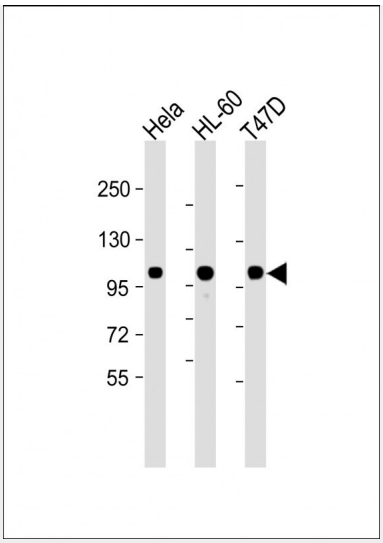


Fluorescent image of U251 cell stained with EZH2 Antibody (Cat# AM1836a / SG100830AA).U251 cells were fixed with 4% PFA (20 min), permeabilized with Triton X-100 (0.1%, 10 min), then incubated with EZH2 primary antibody (1:25, 1 h at 37℃. For secondary antibody, Alexa Fluor® 488 conjugated donkey anti-mouse antibody (green) was used (1:400, 50 min at 37℃.Cytoplasmic actin was counterstained with Alexa Fluor® 555 (red) conjugated Phalloidin (7units/ml, 1 h at 37℃.EZH2 immunoreactivity is localized to Nucleus significantly.

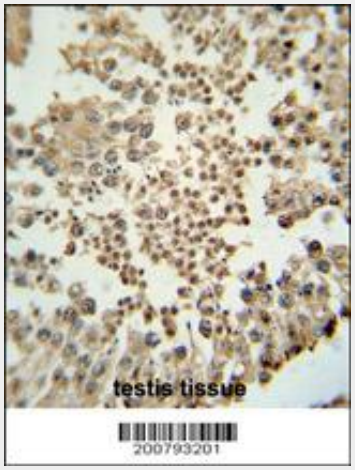


Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized HeLa (human cervical epithelial adenocarcinoma cell line) cells labeling EZH2 with AM1836A at 1/25 dilution, followed by Dylight® 488-conjugated goat anti-mouse IgG (NA166821) secondary antibody at 1/200 dilution (green). Immunofluorescence image showing nucleus staining on HeLa cell line. Cytoplasmic actin is detected with Dylight® 554 Phalloidin (PD18466410) at 1/100 dilution (red).

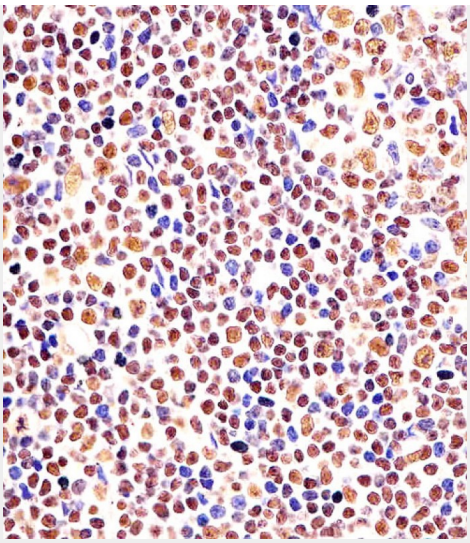
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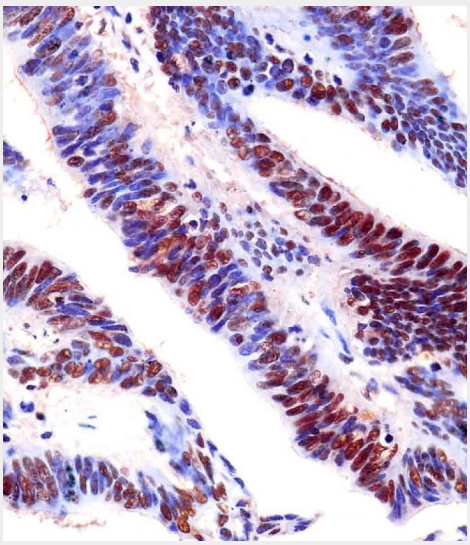
All lanes : Anti-EZH2 Antibody at 1:2000 dilution Lane 1: Hela whole cell lysate Lane 2: HL-60 whole cell lysate Lane 3: T47D whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-mouse IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 85 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



EZH2 Monoclonal Antibody (Cat. #AM1836a) immunohistochemistry analysis in formalin fixed and paraffin embedded human testis tissue followed by peroxidase conjµgation of the secondary antibody and DAB staining. This data demonstrates the use of the EZH2 Monoclonal Antibody for immunohistochemistry. Clinical relevance has not been evaluated.

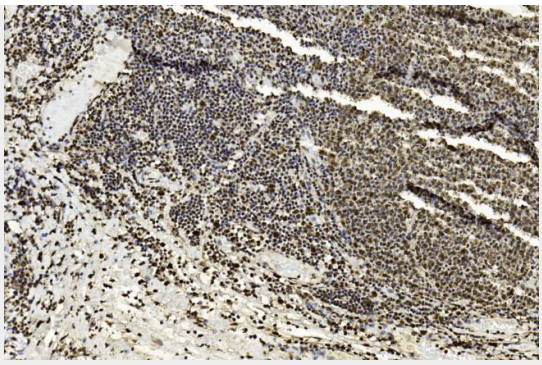


AM1836A staining EZH2 in human tonsil tissue sections by Immunohistochemistry (IHC-P - paraformaldehyde-fixed, paraffin-embedded sections). Tissue was fixed with formaldehyde and blocked with 3% BSA for 0. 5 hour at room temperature; antigen retrieval was by heat mediation with a citrate buffer (pH6). Samples were incubated with primary antibody (1/25) for 1 hours at 37°C. A undiluted biotinylated goat polyvalent antibody was used as the secondary antibody.



AM1836A staining EZH2 in human colorectal carcinoma tissue sections by Immunohistochemistry (IHC-P - paraformaldehyde-fixed, paraffin-embedded sections). Tissue was fixed with formaldehyde and blocked with 3% BSA for 0. 5 hour at room temperature; antigen retrieval was by heat mediation with a citrate buffer (pH6). Samples were incubated with primary antibody (1/25) for 1 hours at 37°C. A undiluted biotinylated goat polyvalent antibody was used as the secondary antibody.

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Immunohistochemical analysis of paraffin-embedded Human tonsil section using Pink1(Cat#am1836a). am1836a was diluted at 1:50 dilution. A undiluted biotinylated goat polyvalent antibody was used as the secondary, followed by DAB staining.

EZH2 Antibody - Background

This gene encodes a member of the Polycomb-group (PcG) family. PcG family members form multimeric protein complexes, which are involved in maintaining the transcriptional repressive state of genes over successive cell generations. This protein associates with the embryonic ectoderm development protein, the VAV1 oncoprotein, and the X-linked nuclear protein. This protein may play a role in the hematopoietic and central nervous systems. Two transcript variants encoding distinct isoforms have been identified for this gene.

EZH2 Antibody - References

Long noncoding RNA as modular scaffold of histone modification complexes. Tsai MC, et al. Science, 2010 Aug 6. PMID 20616235. Implications of enhancer of zeste homologue 2 expression in pancreatic ductal adenocarcinoma. Toll AD, et al. Hum Pathol, 2010 Sep. PMID 20573371. Distinctive expression of the polycomb group proteins Bmi1 polycomb ring finger oncogene and enhancer of zeste homolog 2 in nonsmall cell lung cancers and their clinical and clinicopathologic significance. Kikuchi J, et al. Cancer, 2010 Jun 15. PMID 20564407. EZH2 and STAT6 expression profiles are correlated with colorectal cancer stage and prognosis. Wang CG, et al. World J Gastroenterol, 2010 May 21. PMID 20480530. ETS transcription factors control transcription of EZH2 and epigenetic silencing of the tumor suppressor gene Nkx3.1 in prostate cancer. Kunderfranco P, et al. PLoS One, 2010 May 10. PMID 20479932.

EZH2 Antibody - Citations

- Ezh2 regulates adult hippocampal neurogenesis and memory.