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MBTD1 Rabbit pAb

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Catalog # AP57223

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	Q05BQ5
Reactivity	Mouse
Predicted	Rat, Pig, Dog, Human, Rabbit, Chicken, Horse, Sheep
Host	Rabbit
Clonality	Polyclonal
Calculated MW	70547
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human MBTD1
Epitope Specificity	301-400/628
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SUBCELLULAR LOCATION	Nucleus.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	The transcriptional repressing Polycomb-group (PcG) family is a part of a cellular memory system responsible for the stable inheritance of gene activity. PcG proteins assemble into multimeric protein complexes, which are involved in maintaining the transcriptional repressive state of genes over successive cell generations. MBTD1 (malignant brain tumor domain containing 1) is a 628 amino acid nuclear protein that belongs to the PcG family of proteins. Existing as a monomer, MBTD1 undergoes alternative splicing events to produce three isoforms. MBTD1 contains one FCS-type zinc finger and four MBT repeats, and is encoded by a gene that maps to human chromosome 17q21.33. Chromosome 17 comprises over 2.5% of the human genome and encodes over 1,200 genes. Two key tumor suppressor genes are associated with chromosome 17, namely, p53 and BRCA1.

Additional Information

Gene ID	54799
Other Names	MBT domain-containing protein 1, MBTD1 {ECO:0000303|PubMed:23915195, ECO:0000312|HGNC:HGNC:19866}
Dilution	IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

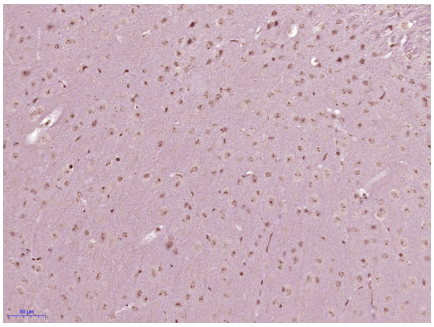
Protein Information

Name	MBTD1 {ECO:0000303|PubMed:23915195, ECO:0000312|HGNC:HGNC:19866}
Function	Chromatin reader component of the NuA4 histone acetyltransferase complex, a multiprotein complex involved in transcriptional activation of select genes principally by acetylation of nucleosomal histones H4 and H2A (PubMed:27153538, PubMed:32209463). The NuA4 complex plays a direct role in repair of DNA double-strand breaks (DSBs) by promoting homologous recombination (HR) (PubMed:27153538). MBTD1 specifically recognizes and binds monomethylated and dimethylated 'Lys-20' on histone H4 (H4K20me1 and H4K20me2, respectively) (PubMed:19841675, PubMed:27153538, PubMed:32209463). In the NuA4 complex, MBTD1 promotes recruitment of the complex to H4K20me marks by competing with TP53BP1 for binding to H4K20me (PubMed:27153538). Following recruitment to H4K20me at DNA breaks, the NuA4 complex catalyzes acetylation of 'Lys-15' on histone H2A (H2AK15), blocking the ubiquitination mark required for TP53BP1 localization at DNA breaks, thereby promoting homologous recombination (HR) (PubMed:27153538).
Cellular Location	Nucleus. Chromosome

Background

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Images



Paraformaldehyde-fixed, paraffin embedded (Mouse brain); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (MBTD1) Polyclonal Antibody, Unconjugated (AP57223) at 1:400 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructionsand DAB staining.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.