

## **MBTD1** Polyclonal Antibody

Purified Rabbit Polyclonal Antibody (Pab) Catalog # AP57223

### **Specification**

## **MBTD1 Polyclonal Antibody - Product Information**

Application IHC-P, IHC-F, IF, ICC

Primary Accession <u>Q05BQ5</u>

Reactivity
Host
Clonality
Calculated MW
Physical State

Rat, Pig, Dog, Bovine
Rabbit
Polyclonal
71 KDa
Liquid

Immunogen KLH conjugated synthetic peptide derived

laG

from human MBTD1

Epitope Specificity 301-400/628

Purity
affinity purified by Protein A

Buffer 0.01M TBS (pH7.4) with 1% BSA, 0.02%

Proclin300 and 50% Glycerol.

SUBCELLULAR LOCATION Nucleus.

SIMILARITY Contains 1 FCS-type zinc finger. Contains 4

MBT repeats.

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.

## **MBTD1** Polyclonal Antibody - Additional Information

**Gene ID 54799** 

**Other Names** 

MBT domain-containing protein 1, MBTD1

**Dilution** 

<span class ="dilution\_IHC-P">IHC-P~~N/A</span><br \><span class</pre>



="dilution\_IHC-F">IHC-F~~N/A</span><br/>span class ="dilution\_IF">IF~~1:50~200</span><br/>span class ="dilution\_ICC">ICC~~N/A</span>

# **Storage**

Store at -20  $^{\circ}$ 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  $^{\circ}$ C.

#### **MBTD1** Polyclonal Antibody - 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:<a href="http://www.uniprot.org/citations/27153538" target="\_blank">27153538</a>, PubMed:<a href="http://www.uniprot.org/citations/32209463" target="\_blank">32209463</a>). The NuA4 complex plays a direct role in repair of DNA double-strand breaks (DSBs) by promoting homologous recombination (HR) (PubMed:<a href="http://www.uniprot.org/citations/27153538" target="\_blank">27153538</a>/a>). MBTD1 specifically recognizes and binds monomethylated and dimethylated 'Lys-20' on histone H4 (H4K20me1 and H4K20me2, respectively) (PubMed:<a

href="http://www.uniprot.org/citations/19841675" target="\_blank">19841675</a>, PubMed:<a href="http://www.uniprot.org/citations/27153538" target="\_blank">27153538</a>, PubMed:<a href="http://www.uniprot.org/citations/32209463" target="\_blank">32209463</a>, PubMed:<a href="http://www.uniprot.org/citations/32209463" target="\_blank">32209463</a>). In the NuA4 complex, MBTD1 promotes recruitment of the complex to H4K20me marks by competing with TP53BP1 for binding to H4K20me (PubMed:<a href="http://www.uniprot.org/citations/27153538" target="\_blank">27153538</a>). 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:<a href="http://www.uniprot.org/citations/27153538" target=" blank">27153538</a></a>).

# **Cellular Location**

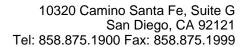
Nucleus. Chromosome

# **MBTD1 Polyclonal Antibody - Protocols**

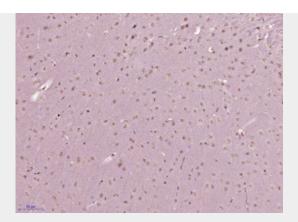
Provided below are standard protocols that you may find useful for product applications.

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

# **MBTD1** Polyclonal Antibody - 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 (bs-18710R) at 1:400 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructions and DAB staining.