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APITD1 Antibody (Center)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP4921c

Product Information

Application	WB, IHC-P, FC, E
Primary Accession	Q8N2Z9
Other Accession	Q9D084, Q2TBR7
Reactivity	Human, Mouse
Predicted	Bovine
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB23840
Calculated MW	15893
Antigen Region	48-74

Additional Information

Gene ID	100526739;378708
Other Names	Centromere protein S, CENP-S, Apoptosis-inducing TAF9-like domain-containing protein 1, FANCM-interacting histone fold protein 1, Fanconi anemia-associated polypeptide of 16 kDa, APITD1, CENPS, FAAP16, MHF1
Target/Specificity	This APITD1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 48-74 amino acids from the Central region of human APITD1.
Dilution	WB~~1:1000 IHC-P~~1:100~500 FC~~1:10~50 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
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	APITD1 Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	CENPS

Function	DNA-binding component of the Fanconi anemia (FA) core complex. Required for the normal activation of the FA pathway, leading to monoubiquitination of the FANCI-FANCD2 complex in response to DNA damage, cellular resistance to DNA cross-linking drugs, and prevention of chromosomal breakage (PubMed:20347428, PubMed:20347429). In complex with CENPX (MHF heterodimer), crucial cofactor for FANCM in both binding and ATP-dependent remodeling of DNA. Stabilizes FANCM (PubMed:20347428, PubMed:20347429). In complex with CENPX and FANCM (but not other FANC proteins), rapidly recruited to blocked forks and promotes gene conversion at blocked replication forks (PubMed:20347428). In complex with CENPT, CENPW and CENPX (CENP-T-W-S-X heterotetramer), involved in the formation of a functional kinetochore outer plate, which is essential for kinetochore-microtubule attachment and faithful mitotic progression (PubMed:19620631). As a component of MHF and CENP-T-W-S-X complexes, binds DNA and bends it to form a nucleosome-like structure (PubMed:20347428, PubMed:22304917). DNA- binding function is fulfilled in the presence of CENPX, with the following preference for DNA substates: Holliday junction > double- stranded > splay arm > single-stranded. Does not bind DNA on its own (PubMed:20347428, PubMed:20347429).
Cellular Location	Nucleus. Chromosome, centromere Chromosome, centromere, kinetochore Note=Assembly of CENPS and CENPX and its partner subunits CENPT and CENPW at centromeres occurs through a dynamic exchange mechanism Although exchange is continuous in the cell cycle, de novo assembly starts principally during mid-late S phase and is complete by G2. CENPS is more stably bound at the kinetochore than CENPX (PubMed:19620631, PubMed:24522885). During S phase, rapidly recruited to DNA interstrand cross-links that block replication (PubMed:20347428). Recruited to DNA damage sites about 20 minutes following UV irradiation, reaching a plateau after approximately 40 minutes (PubMed:24522885)
Tissue Location	Ubiquitously expressed.

Background

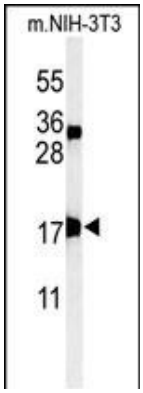
APITD1 was identified in the neuroblastoma tumour suppressor candidate region on chromosome 1p36. It contains a TFIID-31 domain, similar to that found in TATA box-binding protein-associated factor, TAF(II)31, which is required for p53-mediated transcription activation. This gene was expressed at very low levels in neuroblastoma tumours, and was shown to reduce cell growth in neuroblastoma cells, suggesting that it may have a role in a cell death pathway.

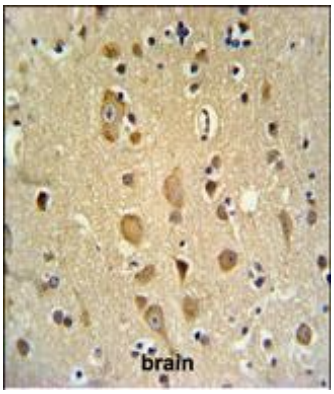
References

Amano, M., et al. J. Cell Biol. 186(2):173-182(2009)
van Gils, W., et al. Invest. Ophthalmol. Vis. Sci. 48(11):4919-4923(2007)
Okada, M., et al. Nat. Cell Biol. 8(5):446-457(2006)

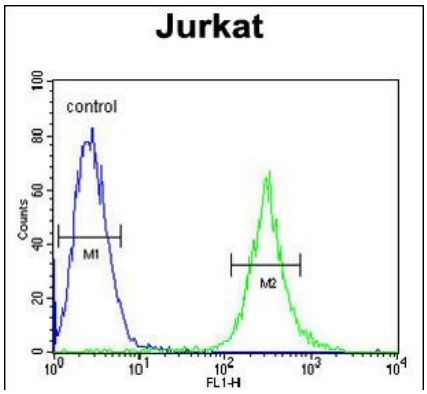
Images

Western blot analysis of APITD1 Antibody (Center) (Cat. #AP4921c) in mouse NIH-3T3 cell line lysates (35ug/lane). APITD1 (arrow) was detected using the purified Pab.





APITD1 Antibody (Center) (Cat. #AP4921c) IHC analysis in formalin fixed and paraffin embedded brain tissue followed by peroxidase conjugation of the secondary antibody and DAB staining. This data demonstrates the use of the APITD1 Antibody (Center) for immunohistochemistry. Clinical relevance has not been evaluated.



APITD1 Antibody (Center) (Cat. #AP4921c) flow cytometric analysis of Jurkat cells (right histogram) compared to a negative control cell (left histogram).FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.