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HINT1 Antibody

Catalog # ASC10773

Product Information

Application	WB, ICC, E
Primary Accession	P49773
Other Accession	NP_005331, 4885413
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	13802
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	HINT1 antibody can be used for detection of HINT1 by Western blot at 1 - 2 g/mL. Antibody can also be used for immunocytochemistry starting at 2.5 g/mL.

Additional Information

Gene ID	3094
Other Names	Histidine triad nucleotide-binding protein 1, 3.-.-.-, Adenosine 5'-monophosphoramidase, Protein kinase C inhibitor 1, Protein kinase C-interacting protein 1, PKCI-1, HINT1, HINT, PKCI1, PRKCNH1
Target/Specificity	HINT1;
Reconstitution & Storage	HINT1 antibody can be stored at 4℃ for three months and -20℃, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.
Precautions	HINT1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	HINT1
Synonyms	HINT, PKCI1, PRKCNH1
Function	Exhibits adenosine 5'-monophosphoramidase activity, hydrolyzing purine nucleotide phosphoramidates with a single phosphate group such as adenosine 5'monophosphoramidate (AMP-NH2) to yield AMP and NH2 (PubMed:15703176, PubMed:16835243, PubMed:17217311, PubMed:17337452, PubMed:22329685, PubMed:23614568, PubMed:28691797, PubMed:29787766, PubMed:31990367). Hydrolyzes

	adenosine 5'monophosphomorpholidate (AMP-morpholidate) and guanosine 5'monophosphomorpholidate (GMP-morpholidate) (PubMed:15703176, PubMed:16835243). Hydrolyzes lysyl-AMP (AMP-N-epsilon-(N-alpha-acetyl lysine methyl ester)) generated by lysine tRNA ligase, as well as Met- AMP, His-AMP and Asp-AMP, lysyl-GMP (GMP-N-epsilon-(N-alpha-acetyl lysine methyl ester)) and AMP-N-alanine methyl ester (PubMed:15703176, PubMed:17337452, PubMed:22329685). Hydrolyzes 3-indolepropionic acyl-adenylate, tryptamine adenosine phosphoramidate monoester and other fluorogenic purine nucleoside tryptamine phosphoramidates in vitro (PubMed:17217311, PubMed:17337452, PubMed:23614568, PubMed:28691797, PubMed:29787766, PubMed:31990367). Can also convert adenosine 5'-O- phosphorothioate and guanosine 5'-O-phosphorothioate to the corresponding nucleoside 5'-O-phosphates with concomitant release of hydrogen sulfide (PubMed:30772266). In addition, functions as scaffolding protein that modulates transcriptional activation by the LEF1/TCF1-CTNNB1 complex and by the complex formed with MITF and CTNNB1 (PubMed:16014379, PubMed:22647378). Modulates p53/TP53 levels and p53/TP53-mediated apoptosis (PubMed:16835243). Modulates proteasomal degradation of target proteins by the SCF (SKP2-CUL1-F-box protein) E3 ubiquitin-protein ligase complex (PubMed:19112177). Also exhibits SUMO-specific isopeptidase activity, deconjugating SUMO1 from RGS17 (PubMed:31088288). Deconjugates SUMO1 from RANGAP1 (By similarity).
Cellular Location	Cytoplasm. Nucleus. Note=Interaction with CDK7 leads to a more nuclear localization.
Tissue Location	Widely expressed.

Background

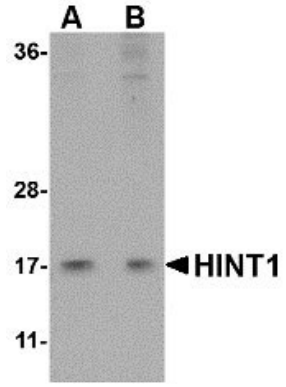
HINT1 Antibody: Histidine triad nucleotide-binding protein 1 (HINT1) is a member of the histidine triad (HIT) protein family, a group of small nucleotide-binding and -hydrolyzing proteins. HINT1 interacts with several diverse proteins and has been suggested to have tumor suppressive activities. HINT1 catalyzes the hydrolysis of adenosine 5'-monophoramidate substrates such as AMP-morpholidate, but its enzymatic function does not appear to play a role in its tumor suppression. Recent experiments demonstrate that HINT1 forms a complex with POSH and JNK in vivo, inhibiting AP-1 activity and the phosphorylation of c-Jun, and this action could contribute to the tumor suppressor activity of HINT1. Other studies raise the possibility of HINT1 as a candidate gene for schizophrenia.

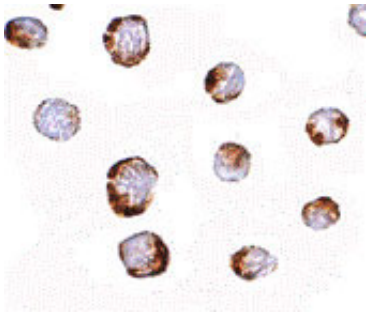
References

Lima CD, Klein MG, Weinstein IB, et al. Three-dimensional structure of human protein kinase C interacting protein 1, a member of the HIT family of proteins. Proc. Natl. Acad. Sci. USA1996; 93:5357-62.
Weiske J and Huber O. Beta-catenin takes a HIT. Cell Cycle2008; 7:1326-31.
Wang L, Zhang Y, Li H, et al. Hint1 inhibits growth and activator protein-1 activity in human colon cancer cells. Cancer Res.2007; 67:4700-8.
Chen Q, Wang X, O'Neill FA, et al. Is the histidine triad nucleotide-binding protein 1 (HINT1) gene a candidate for schizophrenia? Schizophr. Res.2008; 106:200-7.

Images

Western blot analysis of HINT1 in Jurkat lysate with HINT1 antibody at (A) 1 and (B) 2 µg/mL.





Immunocytochemistry of HINT1 in Jurkat cells with HINT1 antibody at 2.5 µg/mL.