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NUDT16 Rabbit pAb

Catalog # AP97244

Product Information

Application	IHC-P, IHC-F, IF, E
Primary Accession	Q96DE0
Other Accession	Q96DE0
Predicted	Rat, Human
Host	Rabbit
Clonality	Polyclonal
Calculated MW	21273
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human NUDT16
Epitope Specificity	51-150/195
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Belongs to the Nudix hydrolase family. Contains 1 nudix hydrolase domain.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	NUDT16 (Nudix Hydrolase 16) is a Protein Coding gene. Among its related pathways are Metabolism and Purine metabolism (KEGG). GO annotations related to this gene include protein homodimerization activity and hydrolase activity. An important paralog of this gene is NUDT16L1.

Additional Information

Gene ID	131870
Other Names	2310041H06Rik; 2810047L04Rik; 2900006H04Rik; RGD1311387; NUD16_HUMAN; NUDT16; IDP phosphatase (IDPase); Inosine diphosphate phosphatase; Nucleoside diphosphate-linked moiety X motif 16 (Nudix motif 16); Nudix hydrolase 16; U8 snoRNA-binding protein H29K; m7GpppN-mRNA hydrolase; 3.6.1.62; NUD16_MOUSE; B2RYV2_RAT; IDP phosphatase; Nucleoside diphosphate-linked moiety X motif 16; 3.6.1.64; nudix (nucleoside diphosphate linked moiety X)-type motif 16
Dilution	IHC-P=1:100-500,IHC-F=1:100-500,ICC/IF=1:100-500,IF=1:100-500,ELISA=1:5000-10000
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	NUDT16
Function	RNA-binding and decapping enzyme that catalyzes the cleavage of the cap structure of snoRNAs and mRNAs in a metal-dependent manner. Part of the U8 snoRNP complex that is required for the accumulation of mature 5.8S and 28S rRNA. Has diphosphatase activity and removes m7G and/or m227G caps from U8 snoRNA and leaves a 5'monophosphate on the RNA. Also catalyzes the cleavage of the cap structure on mRNAs. Does not hydrolyze cap analog structures like 7-methylguanosine nucleoside triphosphate (m7GpppG). Also hydrolysis m7G- and m227G U3-capped RNAs but with less efficiencies. Has broad substrate specificity with manganese or cobalt as cofactor and can act on various RNA species. Binds to the U8 snoRNA; metal is not required for RNA-binding. May play a role in the regulation of snoRNAs and mRNAs degradation. Also acts as a phosphatase; hydrolyzes the non-canonical purine nucleotides inosine diphosphate (IDP) and deoxyinosine diphosphate (dITP) as well as guanosine diphosphate (GDP), deoxyguanosine diphosphate (dGDP), xanthine diphosphate (XDP), inosine triphosphate (ITP) and deoxyinosine triphosphate (ITP) to their respective monophosphate derivatives and does not distinguish between the deoxy- and ribose forms (PubMed:20385596, PubMed:26121039). The order of activity with different substrates is IDP > dIDP >> GDP = dGDP > XDP = ITP = dITP (PubMed:20385596). Binds strongly to GTP, ITP and XTP. Participates in the hydrolysis of dIDP/IDP and probably excludes non-canonical purines from RNA and DNA precursor pools, thus preventing their incorporation into RNA and DNA and avoiding chromosomal lesions (PubMed:20385596). Exhibits decapping activity towards NAD-capped RNAs and FAD-capped RNAs (PubMed:32432673). Exhibits decapping activity towards dpCoA-capped RNAs in vitro (By similarity).
Cellular Location	Nucleus. Nucleus, nucleoplasm {ECO:0000250|UniProtKB:Q6TEC1}. Nucleus, nucleolus {ECO:0000250|UniProtKB:Q6TEC1}. Cytoplasm. Note=Localized predominantly in the cytoplasm (PubMed:21070968). Localized in nucleolus, and in a minor proportion in distinct foci in the nucleoplasm (By similarity) {ECO:0000250|UniProtKB:Q6TEC1, ECO:0000269|PubMed:21070968}
Tissue Location	Expressed strongly in lung, kidney, adrenal gland, testis, heart and brain.

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