10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

RNASET2 Antibody

Catalog # ASC11454

Product Information

Application	WB, IF, ICC, E
Primary Accession	O00584
Other Accession	NP_003721, 5231228
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	29481
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	RNASET2 antibody can be used for detection of FOXRED2 by Western blot at 1 g/mL.

Additional Information

Gene ID	8635
Other Names	Ribonuclease T2, 3.1.27.-, Ribonuclease 6, RNASET2, RNASE6PL
Target/Specificity	RNASET2;
Reconstitution & Storage	RNASET2 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	RNASET2 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	RNASET2
Synonyms	RNASE6PL
Function	Ribonuclease that plays an essential role in innate immune response by recognizing and degrading RNAs from microbial pathogens that are subsequently sensed by TLR8 (PubMed:31778653). Cleaves preferentially single-stranded RNA molecules between purine and uridine residues, which critically contributes to the supply of catabolic uridine and the generation of purine-2',3'-cyclophosphate-terminated oligoribonucleotides (PubMed:31778653, PubMed:38697119). In turn, RNase T2 degradation products promote the RNA-dependent activation of TLR8 (PubMed:31778653). In plasmacytoid dendritic cells, it cooperates with PLD3 or PLD4 5'->3'

	exonucleases to process RNA fragments and release 2',3'-cyclic guanosine monophosphate (2',3'-cGMP), a potent stimulatory ligand for TLR7 (PubMed:38697119). Also plays a key role in degradation of mitochondrial RNA and processing of non-coding RNA imported from the cytosol into mitochondria (PubMed:28730546, PubMed:30184494). Participates as well in degradation of mitochondrion-associated cytosolic rRNAs (PubMed:30385512).
Cellular Location	Secreted. Lysosome lumen. Endoplasmic reticulum lumen. Mitochondrion intermembrane space. Note=Full-length RNASET2 is found in the endoplasmic reticulum while smaller RNASET2 proteolytic products are found in the lysosome fraction.
Tissue Location	Ubiquitous. Higher expression levels observed in the temporal lobe and fetal brain.

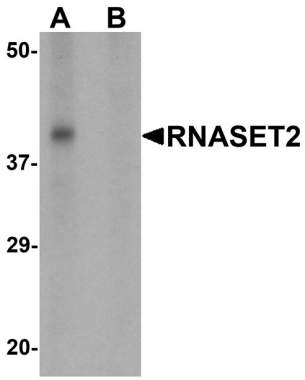
Background

RNASET2 Antibody: RNASET2 is a novel member of the Rh/T2/S-glycoprotein class of extracellular ribonucleases. It is a single copy gene that maps to 6q27, a region associated with human malignancies and chromosomal rearrangement, and has been suggested to function as a tumor suppressor protein. Its expression is suppressed in Human T-cell Leukemia Virus type 1 (HTLV-1) infected cells following the binding of the HTLV-1 Tax protein to the RNASET2 promoter. As Adult T-cell leukemia (ATL) is one of the primary diseases caused by HTLV-1 infection, a reduction in the level of RNASET2 by Tax may play a role in ATL development.

References

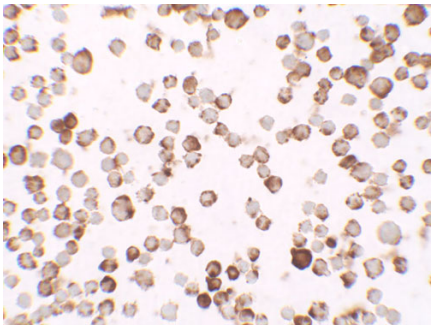
Acquati F, Morelli C, Cinquetti R, et al. Cloning and characterization of a senescence inducing and class II tumor suppressor gene in ovarian carcinoma at chromosome region 6q27. Oncogene 2001; 20:980-8.
Campomenosi P, Salis S, Lingqvist C, et al. Characterization of RNASET2, the first human member of the Rh/T2/S family of glycoproteins. Arch. Biochm. Biophys. 2006; 449:17-26
Polakowski N, Han H, and Lemasson I. Direct inhibition of RNase T2 expression by the HLTV-1 viral protein Tax. Viruses 2011; 3:1485-500.

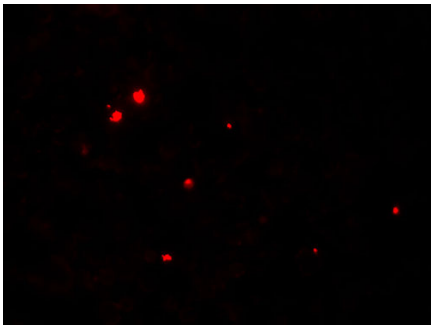
Images



Western blot analysis of RNASET2 in SW480 cell lysate with RNASET2 antibody at 1 µg/mL in (A) the absence and (B) the presence of blocking peptide.

Immunocytochemistry of RNASET2 in SW480 cells with RNASET2 antibody at 2.5 µg/ml.





Immunofluorescence of RNASET2 in SW480 cells with RNASET2 antibody at 5 µg/ml.