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

RNAse H2A Antibody

Catalog # ASC10830

Product Information

Application	WB, IF, ICC, E
Primary Accession	O75792
Other Accession	O75792, 20981704
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	33395
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	RNAse H2A antibody can be used for detection of RNAse H2A by Western blot at 1 g/mL. Antibody can also be used for immunocytochemistry starting at 2 g/mL. For immunofluorescence start at 4 g/mL.

Additional Information

Gene ID	10535
Other Names	Ribonuclease H2 subunit A, RNase H2 subunit A, 3.1.26.4, Aicardi-Goutieres syndrome 4 protein, AGS4, RNase H(35), Ribonuclease HI large subunit, RNase HI large subunit, Ribonuclease HI subunit A, RNASEH2A, RNASEHI, RNHIA
Target/Specificity	RNASEH2A;
Reconstitution & Storage	RNAse H2A 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	RNAse H2A Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	RNASEH2A
Synonyms	RNASEHI, RNHIA
Function	Catalytic subunit of RNase HII, an endonuclease that specifically degrades the RNA of RNA:DNA hybrids. Participates in DNA replication, possibly by mediating the removal of lagging-strand Okazaki fragment RNA primers during DNA replication. Mediates the excision of single ribonucleotides from DNA:RNA duplexes.

Cellular Location Nucleus.

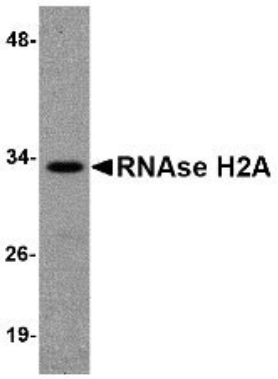
Background

RNAse H2A Antibody: Ribonucleases (RNAses) H are enzymes that hydrolyze the RNA strands of RNA/DNA hybrids. The major role of these enzymes is to remove the RNA strand from the RNA/DNA hybrids that form during DNA replication and repair. RNAse H2 is made up of three subunits; all three are required for RNAse activity. Recent evidence has demonstrated that mutations in RNAse H2A or any of the other subunits result in Aicardi-Goutieres syndrome (AGS), a neurological disorder with similar symptoms to viral brain infections including high levels of IFN-alpha in the cerebral spinal fluid. Similar conditions are observed with mutations in TREX1, a single-stranded DNA exonuclease, suggesting that RNAse H2 and TREX1 may have similar roles, and that mutations in any of these genes lead to an accumulation of intracellular nucleic acids, triggering an inflammatory response through activation of the innate immune system.

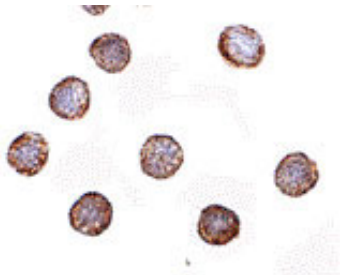
References

Stein H and Hausen P. Enzyme from calf thymus degrading the RNA moiety of DNA-RNA hybrids: effect on DNA-dependent RNA polymerase. Science 1969; 166:393-5.
Cerritelli SM and Crouch RJ. Ribonuclease H: the enzymes in eukaryotes. FEBS J. 2009; 276:1494-505.
Jeong HS, Backlund PS, Chen HC, et al. RNase H2 of Saccharomyces cerevisiae is a complex of three proteins. Nuc. Acids Res. 2004; 32:407-14.
Crow YJ, Leitch A, Hayward BE, et al. Mutations in genes encoding ribonuclease H2 subunits cause Aicardi-Goutieres syndrome and mimic congenital viral brain infection. Nat. Genet. 2006; 38:910-6.

Images



Western blot analysis of RNAse H2A in HeLa cell lysate with RNAse H2A antibody at 1 µg/mL.



Immunocytochemistry of RNAse H2A in HeLa cells with RNAse H2A antibody at 2 µg/mL.

Immunofluorescence of RNase H2A in Hela cells with RNAse H2A antibody at 5 µg/mL.