

DIS3 Antibody

Catalog # ASC11656

Product Information

Application	WB, IF, E, IHC-P
Primary Accession	Q9Y2L1
Other Accession	NP_055768 , 190014623
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	109003
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	DIS3 antibody can be used for detection of DIS3 by Western blot at 1 - 2 μ g/mL.

Additional Information

Gene ID	22894
Other Names	Exosome complex exonuclease RRP44, 3.1.13.-, 3.1.26.-, Protein DIS3 homolog, Ribosomal RNA-processing protein 44, DIS3, KIAA1008, RRP44
Target/Specificity	DIS3; Multiple isoforms of DIS3 are known to exist.
Reconstitution & Storage	DIS3 antibody can be stored at 4°C for three months and -20°C, stable for up to one year.
Precautions	DIS3 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	DIS3
Synonyms	KIAA1008, RRP44
Function	Putative catalytic component of the RNA exosome complex which has 3'->5' exoribonuclease activity and participates in a multitude of cellular RNA processing and degradation events. In the nucleus, the RNA exosome complex is involved in proper maturation of stable RNA species such as rRNA, snRNA and snoRNA, in the elimination of RNA processing by-products and non-coding 'pervasive' transcripts, such as antisense RNA species and promoter-upstream transcripts (PROMPTs), and of mRNAs with processing defects, thereby limiting or excluding their export to the cytoplasm. The RNA exosome may be involved in Ig class switch recombination (CSR) and/or Ig variable region somatic hypermutation (SHM) by targeting AICDA deamination

activity to transcribed dsDNA substrates. In the cytoplasm, the RNA exosome complex is involved in general mRNA turnover and specifically degrades inherently unstable mRNAs containing AU-rich elements (AREs) within their 3' untranslated regions, and in RNA surveillance pathways, preventing translation of aberrant mRNAs. It seems to be involved in degradation of histone mRNA. DIS3 has both 3'-5' exonuclease and endonuclease activities.

Cellular Location

Cytoplasm. Nucleus, nucleolus. Nucleus, nucleoplasm. Nucleus
Note=Predominantly located in the nucleus (PubMed:20531386). According to PubMed:12429849, found in the nucleolus (PubMed:12429849). According to PubMed:20531386, excluded from nucleolus supporting the existence of a nucleolar RNA exosome complex devoid of DIS3 (PubMed:20531386)

Tissue Location

Widely expressed.

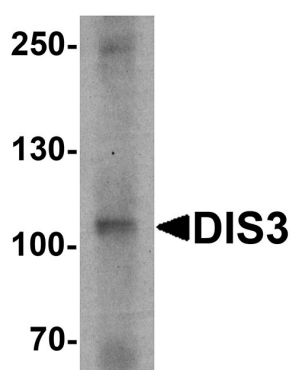
Background

DIS3 Antibody: The exosome is involved in a multitude of cellular RNA processing and degradation events. DIS3, also known as exosome complex exonuclease RRP44, is a ribonuclease that acts directly in the processing, turnover, and surveillance of a large number of distinct RNA species. DIS3 localizes to both the cytoplasm and the nucleus and contains one PINc domain. It is widely expressed with highest expression in testis and is required for processing of 7S pre-RNA into a mature nuclear complex and, ultimately, for proper mitotic progression. Abnormal expression levels of DIS3 may be associated with colon cancer, suggesting a role for DIS3 in tumorigenesis.

References

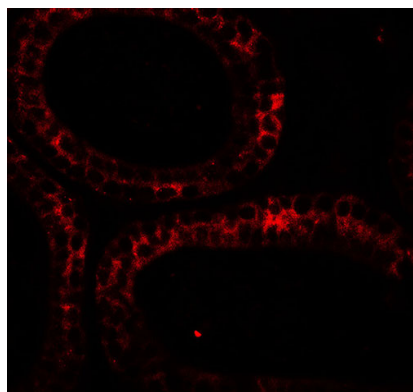
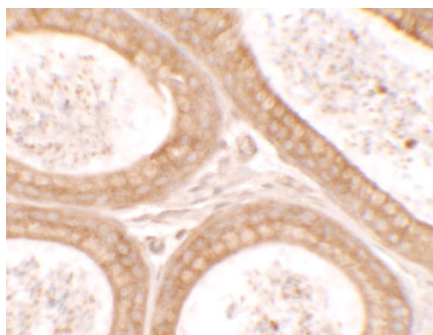
- Chen CY, Gherzi R, Ong SE, et al. AU binding proteins recruit the exosome to degrade ARE-containing mRNAs. *Cell* 2001; 107:451-64.
- Brouwer R, Allmang C, Raijmakers R, et al. Three novel components of the human exosome. *J. Biol. Chem.* 2001; 276:6177-84.
- Schneider C, Anderson JT, Tollervey D, et al. The exosome subunit Rrp44 plays a direct role in RNA substrate recognition. *Mol. Cell* 2007; 27:324-31.
- Murakami H, Goto DB, Toda T, et al. Ribonuclease activity of DIS3 is required for mitotic progression and provides a possible link between heterochromatin and kinetochore function. *PLoS ONE* 2007; 2:317.

Images



Western blot analysis of DIS3 in human ovary tissue lysate with DIS3 antibody at 1 µg/mL.

Immunohistochemistry of DIS3 in mouse testis tissue with DIS3 antibody at 2.5 µg/ml.



Immunofluorescence of DIS3 in mouse testis tissue with DIS3 antibody at 20 $\mu\text{g/ml}$.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.