

DIS3 Antibody / Exosome complex exonuclease RRP44 (FY13219)

Catalog No.	Formulation	Size
FY13219	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

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Availability	1-2 days
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na ₂ HPO ₄ .
UniProt	Q9Y2L1
Applications	ELISA : 0.1-0.5ug/ml Flow Cytometry : 1-3ug/million cells Immunofluorescence : 5ug/ml Immunohistochemistry : 2-5ug/ml Immunocytochemistry : 5ug/ml Western Blot : 0.25-0.5ug/ml
Limitations	This DIS3 antibody is available for research use only.

Description

DIS3 antibody detects Exosome complex exonuclease RRP44, a catalytic subunit of the RNA exosome complex responsible for RNA degradation and processing. The UniProt recommended name is Exosome complex exonuclease RRP44 (DIS3). This enzyme functions as both a 3'-5' exoribonuclease and endoribonuclease, ensuring precise control of RNA quality, turnover, and surveillance in eukaryotic cells.

Functionally, DIS3 antibody identifies a 958-amino-acid cytoplasmic and nuclear protein that associates with the multi-protein RNA exosome complex. DIS3 degrades defective, misprocessed, or surplus RNA species, including rRNA, snoRNA, snRNA, and mRNA. It possesses two catalytic domains—an RNB domain for exonucleolytic degradation and a PIN domain for endonucleolytic cleavage—allowing versatile RNA processing under various physiological conditions. By maintaining RNA homeostasis, DIS3 contributes to normal gene expression and cellular viability.

The DIS3 gene is located on chromosome 13q22.1 and is expressed ubiquitously in proliferative tissues. Its activity is

regulated through complex assembly, post-translational modification, and subcellular localization. DIS3 operates in both the nucleus, where it processes pre-rRNA and small noncoding RNAs, and the cytoplasm, where it degrades aberrant mRNA species.

Pathologically, mutations in DIS3 cause multiple myeloma, acute myeloid leukemia, and related hematologic malignancies. These mutations impair RNA degradation, leading to accumulation of defective transcripts and deregulated gene expression. Loss of DIS3 function disrupts RNA quality control and contributes to oncogenic transformation. Research using DIS3 antibody supports studies in RNA metabolism, gene regulation, and cancer genomics.

DIS3 antibody is validated for western blotting, immunofluorescence, and immunohistochemistry to detect exosome complex components. NSJ Bioreagents provides DIS3 antibody reagents optimized for research in RNA processing, degradation pathways, and hematologic cancer biology.

Structurally, Exosome complex exonuclease RRP44 contains an N-terminal PIN domain for endonucleolytic activity and a central RNB catalytic core typical of RNase II family enzymes. The C-terminal S1 and CSD domains enable RNA substrate recognition and binding. This antibody aids in investigating DIS3's role in RNA exosome-mediated decay and RNA quality control in normal and malignant cells.

Application Notes

Optimal dilution of the DIS3 antibody should be determined by the researcher.

Immunogen

E.coli-derived human DIS3 recombinant protein (Position: H43-K878) was used as the immunogen for the DIS3 antibody.

Storage

After reconstitution, the DIS3 antibody can be stored for up to one month at 4°C. For long-term, aliquot and store at -20°C. Avoid repeated freezing and thawing.