

# DIS3 (H-3): sc-398663

## BACKGROUND

The exosome is a multi-protein complex composed of several highly conserved subunits, some of which are 3' to 5' exoribonucleases. The complex is involved in a variety of cellular processes and is responsible for degrading unstable mRNAs that contain AU-rich elements (AREs) in their untranslated 3' regions. DIS3, also known as RRP44, is a 958 amino acid protein that localizes to both the cytoplasm and the nucleus and contains one PINc domain. Widely expressed with highest expression in testis, DIS3 functions as a component of the exosome exoribonuclease complex 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. Multiple isoforms of DIS3 exist due to alternative splicing events.

## REFERENCES

- Shiomi, T., et al. 1998. Human dis3p, which binds to either GTP- or GDP-Ran, complements *Saccharomyces cerevisiae* DIS3. *J. Biochem.* 123: 883-890.
- Chen, C.Y., et al. 2001. AU binding proteins recruit the exosome to degrade ARE-containing mRNAs. *Cell* 107: 451-464.
- Brouwer, R., et al. 2001. Three novel components of the human exosome. *J. Biol. Chem.* 276: 6177-6184.
- Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 607533. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Lehner, B. and Sanderson, C.M. 2004. A protein interaction framework for human mRNA degradation. *Genome Res.* 14: 1315-1323.

## CHROMOSOMAL LOCATION

Genetic locus: DIS3 (human) mapping to 13q22.1; Dis3 (mouse) mapping to 14 E2.2.

## SOURCE

DIS3 (H-3) is a mouse monoclonal antibody raised against amino acids 788-958 mapping at the C-terminus of DIS3 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

DIS3 (H-3) is available conjugated to agarose (sc-398663 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-398663 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398663 PE), fluorescein (sc-398663 FITC), Alexa Fluor® 488 (sc-398663 AF488), Alexa Fluor® 546 (sc-398663 AF546), Alexa Fluor® 594 (sc-398663 AF594) or Alexa Fluor® 647 (sc-398663 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-398663 AF680) or Alexa Fluor® 790 (sc-398663 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## APPLICATIONS

DIS3 (H-3) is recommended for detection of DIS3 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for DIS3 siRNA (h): sc-105297, DIS3 siRNA (m): sc-143045, DIS3 shRNA Plasmid (h): sc-105297-SH, DIS3 shRNA Plasmid (m): sc-143045-SH, DIS3 shRNA (h) Lentiviral Particles: sc-105297-V and DIS3 shRNA (m) Lentiviral Particles: sc-143045-V.

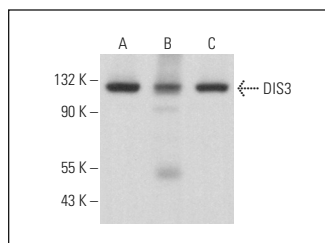
Molecular Weight of DIS3: 110 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, HL-60 whole cell lysate: sc-2209 or Raji whole cell lysate: sc-364236.

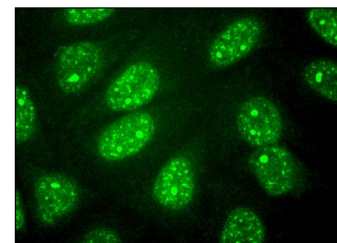
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



DIS3 (H-3): sc-398663. Western blot analysis of DIS3 expression in Raji (A), HL-60 (B) and MCF7 (C) whole cell lysates.



DIS3 (H-3): sc-398663. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization.

## SELECT PRODUCT CITATIONS

- He, Y., et al. 2021. T-cell receptor (TCR) signaling promotes the assembly of RanBP2/RanGAP1-SUMO1/Ubc9 nuclear pore subcomplex via PKC-θ-mediated phosphorylation of RanGAP1. *Elife* 10: e67123.

## STORAGE

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.