

# Dicer (H-212): sc-30226

## BACKGROUND

The mammalian Dicer is a type III RNase-related protein with orthologs in yeast, *Drosophila* and *Arabidopsis*. Dicer contains an RNA-helicase motif, including a DEXH box in its amino-terminus and an RNase motif in the carboxy-terminus. The gene encoding human Dicer maps to chromosome 14q32.13. Dicer is expressed in brain, heart, liver, lung, pancreas, kidney and placenta, and functions in the RNA interference pathway. Dicer cleaves short hairpin RNA precursors of approximately 70 bp into 21-23 bp dsRNAs that selectively target the destruction of homologous RNAs. Dicer localizes to the cytoplasm of mammalian cells. Specifically, it co-localizes with calreticulin in the endoplasmic reticulum. Although the cleavage of RNA by Dicer is ATP-independent, the product release necessary for the rapid turnover of this enzyme may be attributed to ATP. Immunoprecipitation studies indicate Dicer forms a complex with the PIWI domain of eIF2C translation initiation factors.

## CHROMOSOMAL LOCATION

Genetic locus: DICER1 (human) mapping to 14q32.13; Dicer1 (mouse) mapping to 12 E.

## SOURCE

Dicer (H-212) is a rabbit polyclonal antibody raised against amino acids 1701-1912 mapping at the C-terminus of Dicer of human origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

Dicer (H-212) is recommended for detection of Dicer of mouse, rat, human and chicken origin by Western Blotting (starting dilution 1:200, 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).

Dicer (H-212) is also recommended for detection of Dicer in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for Dicer siRNA (h): sc-40489, Dicer siRNA (m): sc-40490, Dicer shRNA Plasmid (h): sc-40489-SH, Dicer shRNA Plasmid (m): sc-40490-SH, Dicer shRNA (h) Lentiviral Particles: sc-40489-V and Dicer shRNA (m) Lentiviral Particles: sc-40490-V.

Molecular Weight of Dicer: 218 kDa.

Positive Controls: DT40 cell lysate: sc-3816, Hep G2 nuclear extract: sc-364819 or HeLa whole cell lysate: sc-2200.

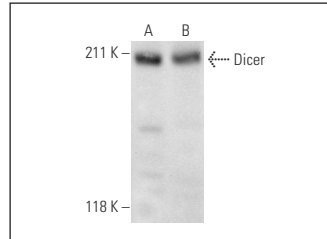
## STORAGE

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

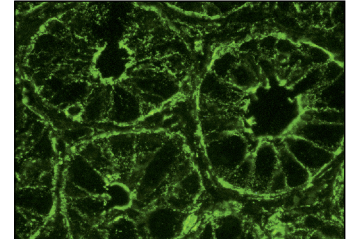
## RESEARCH USE

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

## DATA



Dicer (H-212): sc-30226. Western blot analysis of Dicer expression in Hep G2 nuclear extract (A) and DT40 whole cell lysate (B).



Dicer (H-212): sc-30226. Immunofluorescence staining of normal mouse intestine frozen section showing cytoplasmic staining.

## SELECT PRODUCT CITATIONS

1. Takahashi, H., et al. 2006. Dicer and positive charge of proteins decrease the stability of RNA containing the AU-rich element of GM-CSF. *Biochem. Biophys. Res. Commun.* 340: 807-814.
2. Ramsingh, G., et al. 2010. Complete characterization of the microRNAome in a patient with acute myeloid leukemia. *Blood* 116: 5316-5326.
3. Sakurai, K., et al. 2010. A role for human Dicer in pre-RISC loading of siRNAs. *Nucleic Acids Res.* 39: 1510-1525.
4. Fabozzi, G., et al. 2011. Ebola virus proteins suppress the effects of small interfering RNA by direct interaction with the mammalian RNA interference pathway. *J. Virol.* 85: 2512-2523.
5. Grek, M., et al. 2011. Coordinated increase of miRNA-155 and miRNA-196b expression correlates with the detection of the antigenomic strand of hepatitis C virus in peripheral blood mononuclear cells. *Int. J. Mol. Med.* 28: 875-880.
6. Fisher, K.W., et al. 2011. Kinase suppressor of ras 1 (KSR1) regulates PGC1a and estrogen-related receptor a to promote oncogenic Ras-dependent anchorage-independent growth. *Mol. Cell. Biol.* 31: 2453-2461.
7. Kim, C.W., et al. 2012. Ectopic over-expression of tristetrin in human cancer cells promotes biogenesis of let-7 by down-regulation of Lin28. *Nucleic Acids Res.* 40: 3856-3869.
8. Ye, L., et al. 2012. Livin expression may be regulated by miR-198 in human prostate cancer cell lines. *Eur. J. Cancer* 49: 734-740.
9. Estella, C., et al. 2012. miRNA signature and Dicer requirement during human endometrial stromal decidualization *in vitro*. *PLoS ONE* 7: e41080.


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Try **Dicer (F-10): sc-136979** or **Dicer (E-7): sc-393328**, our highly recommended monoclonal alternatives to Dicer (H-212). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **Dicer (F-10): sc-136979**.