

RNase III Drosha (I-16): sc-31158

BACKGROUND

The ribonuclease III superfamily represents a structurally distinct group of double-strand-specific endonucleases with essential roles in RNA maturation, RNA decay and gene silencing. Initial cleavage of microRNAs is catalyzed by Drosha, a nuclease of the RNase III family, which acts on primary miRNA transcripts (pri-miRNAs) in the nucleus. Human Drosha is a component of two multi-protein complexes. The larger complex contains multiple classes of RNA-associated proteins including RNA helicases, proteins that bind double-stranded RNA, novel heterogeneous nuclear ribonucleoproteins and the Ewing's sarcoma family of proteins. The smaller complex is composed of Drosha and the double-stranded-RNA-binding protein, DGCR8.

REFERENCES

- Denli A.M., et al. 2004. Processing of primary microRNAs by the Micro-processor complex. *Nature* 432: 231-235.
- Gregory R.I., et al. 2004. The Microprocessor complex mediates the genesis of microRNAs. *Nature* 432: 235-240.
- Sun W., et al. 2004. Mutational analysis of the nuclease domain of *Escherichia coli* ribonuclease III. Identification of conserved acidic residues that are important for catalytic function *in vitro*. *Biochemistry* 43: 13054-13062.
- Han, J., et al. 2004. The Drosha-DGCR8 complex in primary microRNA processing. *Genes Dev.* 18: 3016-3027.
- Landthaler, M., et al. 2004. The human DiGeorge syndrome critical region gene 8 and its *Drosophila melanogaster* homolog are required for miRNA biogenesis. *Curr. Biol.* 14: 2162-2167.
- Tomari, Y., et al. 2005. MicroRNA biogenesis: Drosha can't cut it without a partner. *Curr. Biol* 15: R61-R64.
- Zeng, Y., et al. 2005. Recognition and cleavage of primary microRNA precursors by the nuclear processing enzyme Drosha. *EMBO J.* 24: 138-148.

CHROMOSOMAL LOCATION

Genetic locus: RNASEN (human) mapping to 5p13.3; Rnasen (mouse) mapping to 15 A1.

SOURCE

RNase III Drosha (I-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of RNase III 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.

Blocking peptide available for competition studies, sc-31158 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

RNase III Drosha (I-16) is recommended for detection of RNase III Drosha of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

RNase III Drosha (I-16) is also recommended for detection of RNase III Drosha in additional species, including equine, canine and bovine.

Suitable for use as control antibody for RNase III Drosha siRNA (h): sc-44080, RNase III Drosha siRNA (m): sc-44812, RNase III Drosha shRNA Plasmid (h): sc-44080-SH, RNase III Drosha shRNA Plasmid (m): sc-44812-SH, and RNase III Drosha shRNA (h) Lentiviral Particles: sc-44080-V and RNase III Drosha shRNA (m) Lentiviral Particles: sc-44812-V.

Molecular Weight of RNase III Drosha: 160 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.



Try **RNase III Drosha (C-7): sc-393591**, our highly recommended monoclonal alternative to RNase III Drosha (I-16).