SANTA CRUZ BIOTECHNOLOGY, INC.

RNase HII-C (D-17): sc-68228

BACKGROUND

The RNase HII complex is an endonuclease that degrades RNA found in RNA:DNA duplexes and is composed of one catalytic subunit and two non-catalytic subunits. RNase HII-C, also called RNASEH2C (ribonuclease H2 subunit C), RNASEHI, AGS3 or AYP1, is the 164 amino acid non-catalytic subunit of RNase HII. Localized to the nucleus, RNase HII-C mediates the removal of Okazaki fragment RNA primers that are present on the lagging strand during DNA replication. RNase HII-C specifically degrades the RNA of RNA:DNA hybrids and mediates the excision of single ribonucleotides from DNA:RNA duplexes. Defects in the gene encoding RNase HII-C are the cause of Aicardi-Goutieres syndrome type 3 (AGS3), an autosomal recessive encephalopathy characterized by cerebral atrophy, leukodystrophy, intracranial calcifications and chronic cerebrospinal fluid (CSF) lymphocytosis. Patients affected by AGS3 have severe neurological dysfunctions and often die in early childhood.

REFERENCES

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2. ten Asbroek, A.L., et al. 2002. The involvement of human ribonucleases H1 and H2 in the variation of response of cells to antisense phosphorothioate oligonucleotides. Eur. J. Biochem. 269: 583-592.
3. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 606034. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Jeong, H.S., et al. 2004. RNase HII of *Saccharomyces cerevisiae* is a complex of three proteins. Nucleic Acids Res. 32: 407-414.
5. Bayliss, C.D., et al. 2005. Destabilization of tetranucleotide repeats in Haemophilus influenzae mutants lacking Rnase HI or the Klenow domain of PolI. Nucleic Acids Res. 33: 400-408.
6. Crow, Y.J., et al. 2006. Mutations in genes encoding ribonuclease H2 subunits cause Aicardi-Goutières syndrome and mimic congenital viral brain infection. Nat. Genet. 38: 910-916.
7. Rice, G., et al. 2007. Clinical and molecular phenotype of Aicardi-Goutieres syndrome. Am. J. Hum. Genet. 81: 713-725.

CHROMOSOMAL LOCATION

Genetic locus: RNASEH2C (human) mapping to 11q13.1.

SOURCE

RNase HII-C (D-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of RNase HI-C of human origin.

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.

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-68228 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-68228 X, 200 µg/0.1 ml.

APPLICATIONS

RNase HII-C (D-17) is recommended for detection of RNase HII-C of 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).

Suitable for use as control antibody for RNase HII-C siRNA (h): sc-62956, RNase HII-C shRNA Plasmid (h): sc-62956-SH and RNase HII-C shRNA (h) Lentiviral Particles: sc-62956-V.

RNase HII-C (D-17) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of RNase HII-C: 18 kDa.

RECOMMENDED SECONDARY REAGENTS

TTo 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.

PROTOCOLS

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