SANTA CRUZ BIOTECHNOLOGY, INC.

ECAT1 siRNA (h): sc-95319

BACKGROUND

ECAT1 (ES cell-associated transcript 1 protein) is a 217 amino acid protein that belongs to the KHDC1 family. The ECAT1 protein contains an atypical KH domain with amino acid changes at critical sites, suggesting that it may not bind RNA. Expression of ECAT1 appears to be maximal in germinal vesicle oocytes, it tails off through metaphase II oocytes and is undetectable following the completion of the oocyte to embryo transition. Specifically expressed in the oocytes, recent studies suggest that ECAT1 may function as a regulator of genomic imprinting in the oocyte. Defects in ECAT1 are the cause of hydatidiform mole recurrent type 2 (HYDM2), a disorder characterized by excessive trophoblast development that produces a growing mass of tissue inside the uterus at the beginning of a pregnancy. HYDM2 leads to abnormal pregnancies with no embryo, and cystic degeneration of the chorionic villi.

REFERENCES

1. Judson, H., et al. 2002. A global disorder of imprinting in the human female germ line. Nature 416: 539-542.
2. Mungall, A.J., et al. 2003. The DNA sequence and analysis of human chromosome 6. Nature 425: 805-811.
3. Wang, C.M., et al. 2009. Identification of 13 novel NLRP7 mutations in 20 families with recurrent hydatidiform mole; missense mutations cluster in the leucine-rich region. J. Med. Genet. 46: 569-575.
4. Parry, D.A., et al. 2011. Mutations causing familial biparental hydatidiform mole implicate c6orf221 as a possible regulator of genomic imprinting in the human oocyte. Am. J. Hum. Genet. 89: 451-458.
5. Landolsi, H., et al. 2011. Screening for NLRP7 mutations in familial and sporadic recurrent hydatidiform moles: report of 2 Tunisian families. Int. J. Gynecol. Pathol. 30: 348-353.
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CHROMOSOMAL LOCATION

Genetic locus: KHDC3L (human) mapping to 6q13.

PRODUCT

ECAT1 siRNA (h) is a pool of 2 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see ECAT1 shRNA Plasmid (h): sc-95319-SH and ECAT1 shRNA (h) Lentiviral Particles: sc-95319-V as alternate gene silencing products.

For independent verification of ECAT1 (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-95319A and sc-95319B.

RESEARCH USE

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

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

ECAT1 siRNA (h) is recommended for the inhibition of ECAT1 expression in human cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 µM in 66 µl. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor ECAT1 gene expression knockdown using RT-PCR Primer: ECAT1 (h)-PR: sc-95319-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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