SANTA CRUZ BIOTECHNOLOGY, INC.

CUZD1 siRNA (h): sc-90351

BACKGROUND

CUZD1 (CUB and zona pellucida-like domains 1), also known as ERG-1 (estrogen regulated gene 1) or UO-44, is a 607 amino acid single-pass type I membrane protein that contains two CUB domains and a ZP (zona-pellucida) domain. Expressed in pancreas and epithelium of ovary with higher levels in ovarian tumors, CUZD1 is considered to inhibit cell attachment and proliferation of ovarian cancer cells. CUZD1 is suggested to play a role in cell motility, cell-cell interactions and/or interactions with the extracellular matrices. Existing as three alternatively spliced isoforms, CUZD1 is encoded by a gene located on human chromosome 10. Making up 4.5% of the human genome, chromosome 10 encodes roughly 800 genes including PTEN, a tumor suppressor gene that has been linked to the development of Cowden syndrome. The chromosome 10 encoded gene ERCC6 is important for DNA repair and is linked to Cockayne syndrome which is characterized by extreme photosensitivity and premature aging.

REFERENCES

1. Deloukas, P., et al. 2000. Report of the third international workshop on human chromosome 10 mapping and sequencing 1999. Cytogenet. Cell Genet. 90: 1-12.
2. Leong, C.T., et al. 2004. Molecular cloning, characterization and isolation of novel spliced variants of the human ortholog of a rat estrogen-regulated membrane-associated protein, UO-44. Oncogene 23: 5707-5718.
3. Yamazaki, K., et al. 2006. Identification and characterization of novel and unknown mouse epididymis-specific genes by complementary DNA microarray technology. Biol. Reprod. 75: 462-468.
4. Teresi, R.E., et al. 2007. Cowden syndrome-affected patients with PTEN promoter mutations demonstrate abnormal protein translation. Am. J. Hum. Genet. 81: 756-767.
5. Leong, C.T., et al. 2007. Silencing expression of UO-44 (CUZD1) using small interfering RNA sensitizes human ovarian cancer cells to cisplatin *in vitro*. Oncogene 26: 870-880.
6. Brink, T.C., Sudheer, S., Janke, D., Jagodzinska, J., Jung, M. and Adjaye, J. 2008. The origins of human embryonic stem cells: a biological conundrum. Cells Tissues Organs 188: 9-22.

CHROMOSOMAL LOCATION

Genetic locus: CUZD1 (human) mapping to 10q26.13.

PRODUCT

CUZD1 siRNA (h) is a pool of 3 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 CUZD1 shRNA Plasmid (h): sc-90351-SH and CUZD1 shRNA (h) Lentiviral Particles: sc-90351-V as alternate gene silencing products.

For independent verification of CUZD1 (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-90351A, sc-90351B and sc-90351C.

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

CUZD1 siRNA (h) is recommended for the inhibition of CUZD1 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.

GENE EXPRESSION MONITORING

CUZD1 (E-10): sc-514578 is recommended as a control antibody for monitoring of CUZD1 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

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) 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor CUZD1 gene expression knockdown using RT-PCR Primer: CUZD1 (h)-PR: sc-90351-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

RESEARCH USE

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

PROTOCOLS

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