SANTA CRUZ BIOTECHNOLOGY, INC.

ITI-H5L siRNA (h): sc-91044

BACKGROUND

ITI-H5L (inter-α-trypsin inhibitor heavy chain H5-like protein), also known as ITIH6 or UNQ6369, is a 1,313 amino acid secreted protein. Belonging to the interalpha trypsin inhibitor heavy chain (ITIH) family, ITI-H5L contains one VIT domain and a VWFA domain. Composed of two heavy chains and one light chain, interalpha trypsin inhibitors (ITIs) exhibit protease-inhibitor function via the light chain and protein-protein interaction mediating via the heavy chains. The gene encoding ITI-H5L maps to the human X chromosome, which consists of about 153 million base pairs and nearly 1,000 genes. Color blindness, hemophilia and Duchenne muscular dystrophy are well known X chromosome-linked conditions which affect males more frequently, as males carry a single X chromosome.

REFERENCES

1. Salier, J.P., et al. 1987. Isolation and characterization of cDNAs encoding the heavy chain of human inter-α-trypsin inhibitor (I α TI): unambiguous evidence for multipolypeptide chain structure of I α TI. Proc. Natl. Acad. Sci. USA 84: 8272-8276.
2. Himmelfarb, M., et al. 2004. ITIH5, a novel member of the inter-α-trypsin inhibitor heavy chain family is downregulated in breast cancer. Cancer Lett. 204: 69-77.
3. Deeb, S.S. 2005. The molecular basis of variation in human color vision. Clin. Genet. 67: 369-377.
4. Veeck, J., et al. 2008. The extracellular matrix protein ITIH5 is a novel prognostic marker in invasive node-negative breast cancer and its aberrant expression is caused by promoter hypermethylation. Oncogene 27: 865-876.
5. Veeck, J., et al. 2008. Novel prognostic marker in invasive breast cancer. ITIH5 expression is abrogated by aberrant promoter methylation. Pathologe 29: 338-346.
6. Helderman-van den Enden, A.T., et al. 2009. Recurrence risk due to germ line mosaicism: duchenne and Becker muscular dystrophy. Clin. Genet. 75: 465-472.

CHROMOSOMAL LOCATION

Genetic locus: ITIH6 (human) mapping to Xp11.22.

PRODUCT

ITI-H5L 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 ITI-H5L shRNA Plasmid (h): sc-91044-SH and ITI-H5L shRNA (h) Lentiviral Particles: sc-91044-V as alternate gene silencing products.

For independent verification of ITI-H5L (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-91044A, sc-91044B and sc-91044C.

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

ITI-H5L siRNA (h) is recommended for the inhibition of ITI-H5L 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 ITI-H5L gene expression knockdown using RT-PCR Primer: ITI-H5L (h)-PR: sc-91044-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Torrens-Mas, M., et al. 2023. Mitochondrial functionality is regulated by alkylphospholipids in human colon cancer cells. Biology 12: 1457.

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.