SANTA CRUZ BIOTECHNOLOGY, INC.

ACPT siRNA (h): sc-97507

BACKGROUND

ACPT (acid phosphatase, testicular) is a 426 amino acid single-pass type I membrane protein belonging to the histidine acid phosphatase family. Encoded by a gene that maps to human chromosome 19q13.4, ACPT is highly expressed in testis, with significantly lower expression in testicular cancer tissues than in normal testicular tissues. ACPT is also expressed in brain, trachea, prostate, bone marrow, spinal cord, colon, fetal brain, heart, thymus, fetal liver, spleen, leukocytes, ovary, small intestine, pancreas and skeletal muscle. ACPT exhibits membrane subcellular localization, exists as three alternatively spliced isoforms and likely contains a homodimer subunit structure. ACPT dephosphorylates receptor tyrosine-protein kinase ErbB-4 and inhibits ligand-induced proteolytic cleavage. ACPT is up-regulated by mibolerone (a synthetic androgen) and dihydrotestosterone (DHT) and, is down-regulated by estrogen and progestin.

REFERENCES

1. Diamandis, E.P., et al. 2001. Human tissue kallikrein gene family: a rich source of novel disease biomarkers. Expert Rev. Mol. Diagn. 1: 182-190.
2. Yousef, G.M., et al. 2001. Molecular cloning of a novel human acid phosphatase gene (ACPT) that is highly expressed in the testis. Genomics 74: 385-395.
3. Diamandis, E.P., et al. 2002. Human tissue kallikreins: a family of new cancer biomarkers. Clin. Chem. 48: 1198-1205.
4. Yousef, G.M., et al. 2002. Expanded human tissue kallikrein family—a novel panel of cancer biomarkers. Tumour Biol. 23: 185-192.
5. Luo, L.Y., et al. 2003. Human tissue kallikreins and testicular cancer. APMIS 111: 225-232.
6. Yousef, G.M., et al. 2003. Genomic overview of serine proteases. Biochem. Biophys. Res. Commun. 305: 28-36.
7. Yousef, G.M., et al. 2003. Role of kallikrein enzymes in the central nervous system. Clin. Chim. Acta 329: 1-8.

CHROMOSOMAL LOCATION

Genetic locus: ACPT (human) mapping to 19q13.33.

PRODUCT

ACPT 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 ACPT shRNA Plasmid (h): sc-97507-SH and ACPT shRNA (h) Lentiviral Particles: sc-97507-V as alternate gene silencing products.

For independent verification of ACPT (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-97507A and sc-97507B.

PROTOCOLS

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

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

ACPT siRNA (h) is recommended for the inhibition of ACPT 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 ACPT gene expression knockdown using RT-PCR Primer: ACPT (h)-PR: sc-97507-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.