SANTA CRUZ BIOTECHNOLOGY, INC.

Klk1b4 siRNA (m): sc-146544

BACKGROUND

Klk1b4 (kallikrein 1-related peptidase-like b4), also known as Klk4, Ngfa, 7S nerve growth factor α chain or α-NGF, is a 256 amino acid protein that belongs to the peptidase S1 family and Kallikrein subfamily, and contains one peptidase S1 domain. Composed of two α chains, a β dimer and two γ chains, Klk1b4 binds two zinc ions per complex at the α-γ interface. The gene encoding Klk1b4 maps to mouse chromosome 7 B4. The human homolog to Klk1b4, PSA (prostate specific antigen), has been determined by sequence similarity to be a member of the kallikrein subfamily of trypsin proteases. PSA is a serine protease that hydrolyzes the major human seminal protein, the seminal plasma mobility inhibitor precursor, or semenogelin I (SPMIP or SgI), which leads to semen liquification. PSA production and expression are highest in normal, benign hyperplastic and cancerous tissues of the prostate, although PSA has also been detected in accessory male sex glands and in breast cancer.

REFERENCES

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3. Evans, B.A. and Richards, R.I. 1985. Genes for the α and γ subunits of mouse nerve growth factor are contiguous. EMBO J. 4: 133-138.
4. Bax, B., et al. 1997. Structure of mouse 7S NGF: a complex of nerve growth factor with four binding proteins. Structure 5: 1275-1285.
5. Härkönen, H.H., et al. 2011. The discovery of compounds that stimulate the activity of kallikrein-related peptidase 3 (KLK3). ChemMedChem 6: 2170-2178.
6. O'Mara, T.A., et al. 2011. Kallikrein-related peptidase 3 (KLK3/PSA) single nucleotide polymorphisms and ovarian cancer survival. Twin Res. Hum. Genet. 14: 323-327.
7. Zambon, C.F., et al. 2012. Effectiveness of the combined evaluation of KLK3 genetics and free-to-total prostate specific antigen ratio for prostate cancer diagnosis. J. Urol. 188: 1124-1130.
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CHROMOSOMAL LOCATION

Genetic locus: Klk1b4 (mouse) mapping to 7 B4.

PRODUCT

Klk1b4 siRNA (m) is a target-specific 19-25 nt siRNA 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 Klk1b4 shRNA Plasmid (m): sc-146544-SH and Klk1b4 shRNA (m) Lentiviral Particles: sc-146544-V as alternate gene silencing 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

Klk1b4 siRNA (m) is recommended for the inhibition of Klk1b4 expression in mouse 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 Klk1b4 gene expression knockdown using RT-PCR Primer: Klk1b4 (m)-PR: sc-146544-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.