SANTA CRUZ BIOTECHNOLOGY, INC.

PTK7 siRNA (h): sc-105188

BACKGROUND

Cholecystokinin (CCK) is a brain/gut peptide and, in the gut, it induces the release of pancreatic enzymes and the contraction of the gallbladder. The CCK precursor is cleaved to produce active peptides, including CCK58. PTK7 is a Type I membrane protein belonging to the Tyr family of protein kinases, insulin receptor subfamily. PTK7 lacks the typical tyrosine kinase catalytic activity and may be involved in cell adhesion. PTK7 is a potential tumor progression marker and putatively involved in colon carcinoma pathophysiology. It is mainly expressed in pancreas, liver, lung, placenta, kidney and melanocytes. It is not expressed in colon but may be detected in erythroleukemia cells.

REFERENCES

1. Lee, S.T., et al. 1993. A survey of protein tyrosine kinase mRNAs expressed in normal human melanocytes. Oncogene 8: 3403-3410.
2. Mossie, K., et al. 1995. Colon carcinoma kinase-4 defines a new subclass of the receptor tyrosine kinase family. Oncogene 11: 2179-2184.
3. Park, S.K., et al. 1996. Characterization of the human full-length PTK7 cDNA encoding a receptor protein tyrosine kinase-like molecule closely related to chick KLG. J. Biochem. 119: 235-239.
4. Banga, S.S., et al. 1997. Assignment of PTK7 encoding a receptor protein tyrosine kinase-like molecule to human chromosome 6p21.1→ p12.2 by fluorescence *in situ* hybridization. Cytogenet. Cell Genet. 76: 43-44.
5. Easty, D.J., et al. 1997. Loss of expression of receptor tyrosine kinase family genes PTK7 and SEK in metastatic melanoma. Int. J. Cancer 71: 1061-1065.
6. Jung, J.W., et al. 2002. Organization of the human PTK7 gene encoding a receptor protein tyrosine kinase-like molecule and alternative splicing of its mRNA. Biochim. Biophys. Acta 1579: 153-163.
7. Lu, X., et al. 2004. PTK7/CCK-4 is a novel regulator of planar cell polarity in vertebrates. Nature 430: 93-98.

CHROMOSOMAL LOCATION

Genetic locus: PTK7 (human) mapping to 6p21.1.

PRODUCT

PTK7 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 PTK7 shRNA Plasmid (h): sc-105188-SH and PTK7 shRNA (h) Lentiviral Particles: sc-105188-V as alternate gene silencing products.

For independent verification of PTK7 (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-105188A, sc-105188B and sc-105188C.

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

PTK7 siRNA (h) is recommended for the inhibition of PTK7 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

PTK7 (WW02): sc-100304 is recommended as a control antibody for monitoring of PTK7 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 PTK7 gene expression knockdown using RT-PCR Primer: PTK7 (h)-PR: sc-105188-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.