SANTA CRUZ BIOTECHNOLOGY, INC.

ITF siRNA (m): sc-39814

BACKGROUND

Trefoil peptides are protease resistant molecules secreted throughout the gut that play a role in mucosal healing. Trefoil peptides contain three intrachain disulfide bonds, forming the trefoil motif, or P-domain. ITF (intestinal trefoil factor) is expressed in the epithelial mucosal layer of the small intestine and colon, brain and pituitary. SP (also known as pancreatic trefoil factor 2 or pancreatic spasmolytic polypeptide) is an inhibitor of spasmolytic activity and gastric acid secretion. Human SP is expressed exclusively in normal stomach epithelium and unlike pS2, it is not expressed in breast carcinoma. Both SP and ITF are predominantly found in gastrointestinal tissues, and are upregulated around areas of epithelial damage and in meta- and neoplasia. The genes which encode pS2, SP and ITF are clustered in human chromosome 21q22.3.

REFERENCES

1. Tomasetto, C., et al. 1990. hSP, the domain-duplicated homolog of pS2 protein, is co-expressed with pS2 in stomach but not in breast carcinoma. EMBO J. 9: 407-414.
2. Podolsky, D.K., et al. 1993. Identification of human intestinal trefoil factor. Goblet cell-specific expression of a peptide targeted for apical secretion. J. Biol. Chem. 268: 6694-6702.
3. Probst, J.C., et al. 1996. Human intestinal trefoil factor is expressed in human hypothalamus and pituitary: evidence for a novel neuropeptide. FASEB J. 10: 1518-1523.
4. Gott, P., et al. 1996. Human trefoil peptides: genomic structure in 21q22.3 and coordinated expression. Eur. J. Hum. Genet. 4: 308-315.
5. Thim, L. 1997. Trefoil peptides: from structure to function. Cell. Mol. Life Sci. 53: 888-903.
6. Murphy, M.S. 1998. Growth factors and the gastrointestinal tract. Nutrition 14: 771-774.
7. LocusLink Report (LocusID: 182590). http://www.ncbi.nlm.nih.gov/LocusLink/

CHROMOSOMAL LOCATION

Genetic locus: Tff3 (mouse) mapping to 17 A3.3.

PRODUCT

ITF siRNA (m) 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 ITF shRNA Plasmid (m): sc-39814-SH and ITF shRNA (m) Lentiviral Particles: sc-39814-V as alternate gene silencing products.

For independent verification of ITF (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-39814A, sc-39814B and sc-39814C.

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

ITF siRNA (m) is recommended for the inhibition of ITF 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.

GENE EXPRESSION MONITORING

ITF (B-1): sc-398651 is recommended as a control antibody for monitoring of ITF 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.

SELECT PRODUCT CITATIONS

1. Liu, S.Q., et al. 2012. Cardioprotective proteins upregulated in the liver in response to experimental myocardial ischemia. Am. J. Physiol. Heart Circ. Physiol. 303: H1446-H1458.

RESEARCH USE

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