SANTA CRUZ BIOTECHNOLOGY, INC.

ITF (FL-80): sc-28927

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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. Gott, P., et al. 1996. Human trefoil peptides: genomic structure in 21q22.3 and coordinated expression. Eur. J. Hum. Genet. 4: 308-315.
4. 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.
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.

CHROMOSOMAL LOCATION

Genetic locus: TFF3 (human) mapping to 21q22.3; Tff3 (mouse) mapping to 17 A3.3.

SOURCE

ITF (FL-80) is a rabbit polyclonal antibody raised against amino acids 1-80 representing full length ITF of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

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

APPLICATIONS

ITF (FL-80) is recommended for detection of ITF of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for ITF siRNA (h): sc-39813, ITF siRNA (m): sc-39814, ITF shRNA Plasmid (h): sc-39813-SH, ITF shRNA Plasmid (m): sc-39814-SH, ITF shRNA (h) Lentiviral Particles: sc-39813-V and ITF shRNA (m) Lentiviral Particles: sc-39814-V.

Molecular Weight of ITF: 9 kDa.

Positive Controls: rat small intestine extract: sc-364811.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Wang, J., et al. 2009. Differential gene expression in normal esophagus and Barrett's esophagus. J. Gastroenterol. 44: 897-911.
2. Hernández, C., et al. 2009. Induction of trefoil factor (TFF)1, TFF2 and TFF3 by hypoxia is mediated by hypoxia inducible factor-1: implications for gastric mucosal healing. Br. J. Pharmacol. 156: 262-272.
3. Kawashima, T., et al. 2010. Downregulation of trefoil factor 3 gene expression in the colon of the senescence-accelerated mouse (SAM)-P6 revealed by oligonucleotide microarray analysis. Biomed. Res. 31: 169-175.
4. Zheng, Q., et al. 2013. Trefoil factor 3 peptide regulates migration via a Twist-dependent pathway in gastric cell. Biochem. Biophys. Res. Commun. 438: 6-12.