SANTA CRUZ BIOTECHNOLOGY, INC.

ITF (B-1): sc-398651

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.

CHROMOSOMAL LOCATION

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

SOURCE

ITF (B-1) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 29-66 within an internal region of ITF of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

ITF (B-1) is available conjugated to agarose (sc-398651 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-398651 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398651 PE), fluorescein (sc-398651 FITC), Alexa Fluor® 488 (sc-398651 AF488), Alexa Fluor® 546 (sc-398651 AF546), Alexa Fluor® 594 (sc-398651 AF594) or Alexa Fluor® 647 (sc-398651 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-398651 AF680) or Alexa Fluor® 790 (sc-398651 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-398651 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

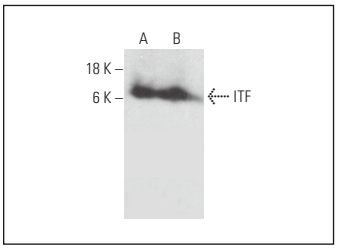
ITF (B-1) is recommended for detection of ITF of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (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.

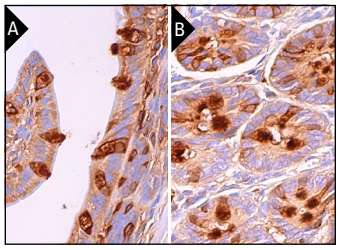
Molecular Weight of ITF: 9 kDa.

Positive Controls: rat small intestine extract: sc-364811 or mouse small intestine extract: sc-364252.

DATA



ITF (B-1): sc-398651. Western blot analysis of ITF expression in rat small intestine (**A**) and mouse small intestine (**B**) tissue extracts.



ITF (B-1): sc-398651. Immunoperoxidase staining of formalin fixed, paraffin-embedded mouse small intestine tissue showing cytoplasmic staining of glandular cells and goblet cells (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded rat small intestine tissue showing cytoplasmic staining of glandular cells and goblet cells (**B**).

SELECT PRODUCT CITATIONS

1. Shan, T.D., et al. 2018. Knockdown of lncRNA H19 inhibits abnormal differentiation of small intestinal epithelial cells in diabetic mice. J. Cell. Physiol. 234: 837-848.
2. Shi, Y., et al. 2020. Mechanistic study of PDIA1-catalyzed TFF3 dimerization during sepsis. Life Sci. 255: 117841.
3. Du, J., et al. 2022. N^6-adenomethylation of GsdmC is essential for $Lgr5^+$ stem cell survival to maintain normal colonic epithelial morphogenesis. Dev. Cell 57: 1976-1994.e8.
4. Yang, T., et al. 2023. TFF3 promotes clonogenic survival of colorectal cancer cells through upregulation of EP4 via activation of Stat3. Transl. Cancer Res. 12: 1503-1515.

RESEARCH USE

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