

DESCRIPTION

Source Chinese Hamster Ovary cell line, CHO-derived human TFF3 protein
Glu22-Phe80 with a C-terminal 6-His tag
Accession # Q07654

N-terminal Sequence Analysis Glu22

Structure / Form Disulfide-linked homodimer

Predicted Molecular Mass 7.4 kDa

SPECIFICATIONS

SDS-PAGE 7-11 kDa, reducing conditions

Activity Measured by its ability to induce ERK1/ERK2 phosphorylation in Jurkat human acute T cell leukemia cells.
5-15 µg/mL of Recombinant Human TFF3 can effectively induce ERK1/2 phosphorylation.

Endotoxin Level <0.10 EU per 1 µg of the protein by the LAL method.

Purity >85%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.

Formulation Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution Reconstitute at 500 µg/mL in PBS.

Shipping The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

Stability & Storage Use a manual defrost freezer and avoid repeated freeze-thaw cycles.

- 12 months from date of receipt, -20 to -70 °C as supplied.
- 1 month, 2 to 8 °C under sterile conditions after reconstitution.
- 3 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Trefoil Factor 3 (TFF3), also known as Intestinal Trefoil Factor (ITF) and P1.B, is one of three structurally related secreted proteins that contain trefoil domains. These domains adopt a three-leaved conformation held together by conserved intrachain disulfide bonds. TFF3 is an approximately 7 kDa peptide that plays an important role in epithelial regeneration and wound healing (1). It can form disulfide-linked dimers or associate into disulfide-linked complexes with the intestinal mucous proteins FCGBP and MUC-2 (2, 3). TFF3 is expressed by epithelial goblet cells in the respiratory tract, biliary and breast ducts, small and large intestine, and cardia of the stomach (4-8). Following secretion, TFF3 can be retained in the overlying mucous layer (7). TFF3 is also expressed by chondrocytes during bone development (9). Mature human TFF3 shares 76% amino acid sequence identity with mouse and rat TFF3. TFF3 is up-regulated in response to a range of gastrointestinal epithelial disruptions (8, 10). It promotes epithelial wound healing by inducing the migration of biliary, bronchial, and intestinal epithelial cells (5, 10-12). TFF3 up-regulation is associated with and enhances tumor cell invasion and metastasis (6, 13). It supports hypoxia-induced VEGF up-regulation in tumor cells and also promotes angiogenesis in non-tumor environments (14, 15). Over-expression of TFF3 in type 2 diabetic mouse liver has been shown to improve glucose tolerance and insulin sensitivity (16).

References:

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