Recombinant Human TFF1

Catalog Number: 8289-TF

DESCRIPTION

Source	Chinese Hamster Ovary cell line, CHO-derived human TFF1 protein Glu25-Phe84 with a C-terminal 6-His tag Accession # P04155
N-terminal Sequence Analysis	Glu25
Structure / Form	Disulfide-linked homodimer
Predicted Molecular Mass	7.5 kDa

SPECIFICATIONS

SDS-PAGE	12-15 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 TFF1 can effectively induce ERK1/2 phosphorylation.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>95%, 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 1 (TFF1), also known as pS2, 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. TFF1 is an approximately 7 kDa peptide that plays an important role in epithelial regeneration and wound healing (1). Mature human TFF1 shares 67% amino acid sequence identity with mouse and rat TFF1. It is expressed by goblet cells of the gastric and intestinal mucosa and by conjunctival goblet cells (2-5). TFF1 is a copper-binding protein that can form disulfide-linked homodimers, associate into disulfide-linked complexes with Gastrokine 2, and form non-covalent complexes with the mucin MUC5AC (4, 6-8). Copper enhances TFF1 homodimerization as well as its ability to promote epithelial cell motility, wound healing, and the colonization of *H. pylori* in stomach and colon epithelia (9, 10). TFF1 is down-regulated during the progression from gastritis to gastric dysplasia to gastric cancer, although it is up-regulated in breast and prostate cancers (11-13). TFF1 inhibits the formation of calcium oxalate crystals, and its excretion in the urine is reduced in patients with kidney stones (14).

References:

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