

Trefoil Factor-1, human recombinant (rHuTFF1)

Catalog No: 08535
Lot No: XXXXX
Source: *E. coli*
Synonyms: TFF-1, TFF1, pS2, BCEI, HPS, HP1.A, pNR-2, D21S21, pS2 protein, Trefoil factor 1, Breast cancer estrogen-inducible protein

Background

The Trefoil Factor peptides (TFF1, TFF2 and TFF3) are stable secretory proteins expressed in the gastrointestinal tract (gastric mucosa), and are involved in intestinal mucosal defense and repair. TFF1 is an essential protein for normal differentiation of the antral and pyloric gastric mucosa and functions as a gastric-specific tumor suppressor gene. TFF1 is a stabilizer of the mucous gel overlying the gastrointestinal mucosa that provides a physical barrier against various noxious agents. TFF1 protects the mucosa from insults, stabilizes the mucus layer, & affects healing of the epithelium. TFF1 is commonly expressed in tumors. TFF1 is related with the cell membrane of MCF-7 cells. High levels of TFF1 and TFF2 are found in serum from inflammatory bowel disease.

Description

TFF-1 human recombinant produced in *E. coli* is a homodimer, non-glycosylated, polypeptide chain containing 2 x 60 amino acids which includes a 40 amino acid trefoil motif containing 3 conserved intermolecular disulfide bonds and having a total molecular mass of 13.2 kDa. TFF-1 is purified by proprietary chromatographic techniques.

Physical Appearance

Sterile filtered white lyophilized (freeze-dried) powder.

Formulation

The protein was lyophilized after dialysis against 1xPBS pH 7.4.

Solubility

It is recommended to reconstitute the lyophilized TFF1 in sterile 18 M Ω -cm H₂O not less than 100 μ g/ml, which can then be further diluted to other aqueous solutions.

Stability

Lyophilized TFF1, although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution TFF1 should be stored at 4°C between 2-7 days and for future use below -18°C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Please prevent freeze-thaw cycles.

Purity

Greater than 97.0% as determined by (a) Analysis by RP-HPLC, (b) Analysis by SDS-PAGE.

Amino Acid Sequence

EAQTETCTVA PRERQNCGFP GVTPSQCANK GCCFDDTVRG VPWCFYPNTI DVPPEEECEF

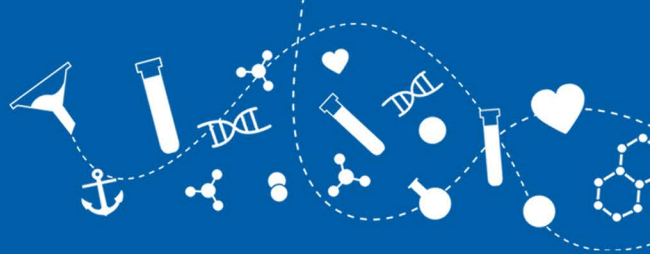
Activity

Determined by its ability to activate ERK1/2 (a MAPkinase signaling molecule) using a concentration 1,000 - 2,000 ng/ml corresponding to a specific activity of 500 - 1,000 IU/mg.

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