



Trefoil Factor-3, human recombinant (rHuTFF3)

Catalog No: 97577
Lot No: XXXXX
Source: *E. coli*
Synonyms: TFF-3, ITF, TFI, HITF, hP1.B, TFF3, Trefoil factor 3, Intestinal trefoil factor

Background

Proteins of the TFF family are characterized by obtaining a minimum of 1 copy of the trefoil motif, a 40-amino acid domain that contains 3 conserved disulfides. Trefoil Factors are stable secretory proteins expressed in gastrointestinal mucosa which protect the mucosa from insults, stabilize the mucus layer and affect healing of the epithelium. TFF2 inhibits gastric acid motility & secretion. TFF2 stabilizes glycoproteins in the mucus gel through interactions with carbohydrate side chains. TFF3 induces ciliogenesis and promotes airway epithelial ciliated cell differentiation, relatively through an epidermal growth factor receptor-dependent pathway. TFF3 overexpression is crucial for progression in mouse and human hepatocellular carcinogenesis. TFF-3 is normally expressed in hepatocellular carcinoma and its expression associates with tumor grade.

Description

TFF-3 human recombinant produced in *E. coli* is a homodimeric, non-glycosylated, polypeptide chain containing 2 x 59 amino acid chains 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-3 is purified by proprietary chromatographic techniques.

Physical Appearance

Sterile filtered white lyophilized (freeze-dried) powder.

Formulation

Lyophilized from a 0.2 µm filtered concentrated solution in PBS, pH 7.4.

Solubility

It is recommended to reconstitute the lyophilized TFF3 in sterile 18 MΩ-cm H₂O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

Stability

Lyophilized TFF3, although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution TFF3 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 SDS-PAGE.

Amino Acid Sequence

EEYVGLSANQ CAVPAKDRVD CGYPHVTPKE CNNRGCCFDS RIPGVPWCFK PLQEAECTF

Activity

Determined by its ability to chemoattract human MCF-7 cells using a concentration 1.0 - 10.0 ng/ml.

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