Trefoil Factor 1 Human E. coli

Product Data Sheet

Type: Recombinant
Source: E. coli
Species: Human
Other names: pS2 protein, HP1.A, Breast cancer estrogen-inducible protein, PNR-2, TFF1 , Protein pS2, Polypeptide P1.A, hP1.A, BCEI, PS2

Cat. No.:
RD172158100 (0.1 mg)

Description

Total 70 AA. MW: 7.9 kDa (calculated). UniProtKB acc.no. P04155. N-Terminal His-tag, 10 extra AA (highlighted).

Introduction to the Molecule

Trefoil factor 1 (TFF1, pS2) is a small secreted protein with molecular weight of 6.5 kDa (monomers, 14 kDa - dimers). It belongs to the TFF protein family that is characterized by a clover leaf-like disulphide structure named the TFF domain, which is created by 6 cysteines forming three intramolecular bonds. TFF1 contains one trefoil domain, but has a seventh cysteine in position 57 that is essential for formation of dimers. TFF1 exist as both monomers and dimers (homo- and heterodimers - with gastrokine 2). The most abundant expression of TFF1 is found in the GI tract (especially in stomach, colon and pancreas) where it is co-localised with mucins, usually with MUC5AC. It is probable that TFF1 is closely connected with healing and stabilisation of the mucin layer. TFF1 was found in significant amounts in ulcer associated cell lineage UACL, where EGF (epidermal growth factor) is also present. The hypothesis that TFF1 expression is influenced by EGF has been proposed, and this has been supported by a study on EGF KO mice which had lower levels of TFF1. A study examining people with Crohn´s disease and inflammatory bowel disease showed that TFF1 level in serum is increased during the inflammatory state. TFF1 is also highly expressed in the trachea and its level increases after administration of allergen, indicating thatTFF1 could be associated with asthma. Another study found that TFF1 levels are high in septic patients and that the level correlates with prognosis of the septic state. High levels of TFF1 in serum were also found in patients with prostate and other types of cancer (breast, colon and ovarian tumors) but its prognostic value has not yet been proved. The exact function of TFF1 is not yet fully understood.

Research topic

Energy metabolism and body weight regulation, Immune Response, Infection and Inflammation, Oncology, Sepsis

Amino Acid Sequence

MKHHHHHHAS EAQTETCTVA PRERQNCGFP GVTPSQCANK GCCFDDTVRG VPWCFYPNTI DVPPEEECEF

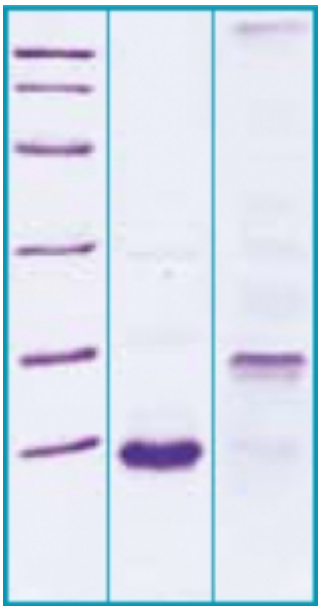
Source

E. coli

Purity

>95%

SDS-PAGE gel



12% SDS-PAGE separation of Human TFF1
1. M.W. marker - 14, 21, 31, 45, 66, 97 kDa
2. reduced and heated sample, 5µg / lane
3. non-reduced and non-heated sample, 5µg / lane

Endotoxin

< 1.0 EU/µg

Formulation

Filtered (0.4 µm) and lyophilized in 0.5 mg/mL in 20mM TRIS, 50mM NaCl, pH 7.5

Reconstitution

Add deionized water to prepare a working stock solution of approximately 0.5 mg/mL and let the lyophilized pellet dissolve completely. Filter sterilize your culture media/working solutions containing this non-sterile product before using in cell culture.

Shipping

At ambient temperature. Upon receipt, store the product at the temperature recommended below.

Storage, Stability/Shelf Life

Store lyophilized protein at -80°C. Lyophilized protein remains stable until the expiry date when stored at -80°C. Aliquot reconstituted protein to avoid repeated freezing/thawing cycles and store at -80°C for long term storage. Reconstituted protein can be stored at 4°C for a limited period of time; it does not show any change after one week at 4°C.

Quality Control Test

BCA to determine quantity of the protein.
SDS PAGE to determine purity of the protein.
LAL TEST to determine endotoxin level.

Applications

ELISA, Western blotting

Note

This product is intended for research use only.

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