Trefoil Factor 2 Human E. coli

Product Data Sheet

Type: Recombinant
Source: E. coli
Species: Human
Other names: Spasmolytic polypeptide, SP, Spasmolysin, TFF2, SML1

Cat. No.:

RD172159025	(0.025 mg)
RD172159100	(0.1 mg)

Description

Total 116 AA. MW: 13,2 kDa (calculated). UniProtKB acc.no. Q03403. N-Terminal His-tag, 10 extra AA (highlighted).

Introduction to the Molecule

Trefoil factor 2 (TFF2) (PSP - pancreatic spasmolytic polypeptide) is a small secreted protein with a molecular weight of 12 kDa. 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. TFF2 contains two trefoil domains and has a very compact structure which may account for its extremely high resistance against the harsh environment in the gastrointestinal tract. The most abundant expression of TFFs is found in GI tract (especially in stomach, colon and pancreas), where they are co-localised with mucins. TFF2 is usually co-localised with MUC6 and probably mediates mucin cross-linking and stabilization of the mucin layer as do the other members of the TFF family. A study examining people with Crohn´s disease and inflammatory bowel disease showed that TFF2 level in serum is increased during the inflammatory state. Another study found that TFF2 levels are high in septic patients and that the level correlates with prognosis of the septic state. High expression of TFF2 was also found in skeletal muscle, liver, heart, spleen, thymus, lymph nodes and bone marrow. The exact function of TFF2 has not yet been revealed, but there is an evidence that it is connected with modulation of immune response (TFF2 deficient mice revealed significant change in expression of several genes involved in MHC class I antigen presentation), allergy and asthma (upregulation of TFF2 by diverse antigens). High levels of TFF2 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.

Research topic

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

Amino Acid Sequence

MKHHHHHHAS EKPSPCQCSR LSPHNRTNCG FPGITSDQCF DNGCCFDSSV TGVPWCFHPL PKQESDQCVM EVSDRRNCGY PGISPEECAS RKCCFSNFIF EVPWCFFPKS VEDCHY

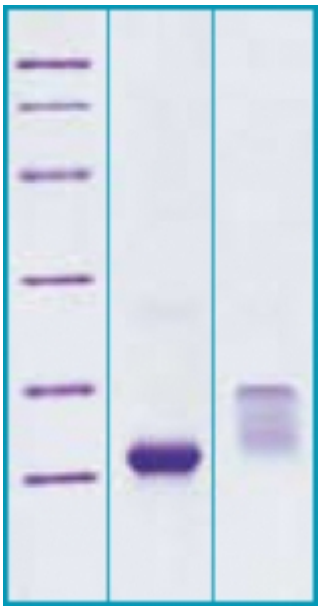
Source

E. coli

Purity

>95%

SDS-PAGE gel



12% SDS-PAGE separation of Human TFF2
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/ug

Formulation

Filtered (0,4 µm) and lyophilized in 0.5 mg/mL in 20mM TRIS, 20mM 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 -20°C. Lyophilized protein remains stable until the expiry date when stored at -20°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 to determine quantity of endotoxin.

Applications

ELISA, Western blotting

Note

This product is intended for research use only.

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