

Gene Section

Short Communication

TFF1 (trefoil factor 1)

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Identity

Other names: pS2

HGNC (Hugo): TFF1

Location: 21q22.3

Local order: Belongs to the TFF cluster.

DNA/RNA

Description

5kb gene; 3 exons.

Transcription

600bp cDNA; coding sequence: 252 bp.

Protein

Description

84 amino acids, containing a peptide signal; the 60 AA-long mature secreted peptide contains one TFF (TreFoil Factor) domain and one acidic C-terminal domain.

Expression

Epithelial cells of the stomach surface.

Localisation

Cytoplasmic.

Function

In the maintenance of mucosa integrity; unknown at the molecular level; deficient mice develop antro-pyloric adenoma.

Homology

TFF2/SP (spasmolytic peptide) and TFF3/ITF (intestinal trefoil factor).

Implicated in

Disease

Overexpressed in estradiol-dependent breast carcinomas; overexpressed in carcinoma of several other organs; loss of expression in half of gastric carcinomas (TFF1 is normally expressed in the stomach).

Prognosis

Good prognosis factor, and marker of response to hormonal treatment in breast carcinomas.

References

Foekens JA, Rio MC, Seguin P, van Putten WL, Fauque J, Nap M, Klijn JG, Chambon P. Prediction of relapse and survival in breast cancer patients by pS2 protein status. *Cancer Res.* 1990 Jul 1;50(13):3832-7

Lefebvre O, Wolf C, Kédinger M, Chenard MP, Tomasetto C, Chambon P, Rio MC. The mouse one P-domain (pS2) and two P-domain (mSP) genes exhibit distinct patterns of expression. *J Cell Biol.* 1993 Jul;122(1):191-8

Spyratos F, Andrieu C, Hacène K, Chambon P, Rio MC. pS2 and response to adjuvant hormone therapy in primary breast cancer. *Br J Cancer.* 1994 Feb;69(2):394-7

Lefebvre O, Chenard MP, Masson R, Linares J, Dierich A, LeMeur M, Wendling C, Tomasetto C, Chambon P, Rio MC. Gastric mucosa abnormalities and tumorigenesis in mice lacking the pS2 trefoil protein. *Science.* 1996 Oct 11;274(5285):259-62

Ribieras S, Tomasetto C, Rio MC. The pS2/TFF1 trefoil factor, from basic research to clinical applications. *Biochim Biophys Acta.* 1998 Aug 19;1378(1):F61-77

Tomasetto C, Masson R, Linares JL, Wendling C, Lefebvre O, Chenard MP, Rio MC. pS2/TFF1 interacts directly with the VWFC cysteine-rich domains of mucins. *Gastroenterology.* 2000 Jan;118(1):70-80

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