



# Recombinant Protein Technical Manual

## Recombinant Human Mucin/MUC Protein

RPES0294

### Product Data:

**Product SKU:** RPES0294

**Size:** 20µg

**Species:** Human

**Expression host:** HEK293 Cells

**Uniprot:** NP\_001018016.1

### Protein Information:

**Molecular Mass:** 15.4 kDa

**AP Molecular Mass:**

**Tag:**

**Bio-activity:**

**Purity:** >(9.5+86.8) % as determined by reducing SDS-PAGE.

**Endotoxin:** < 1.0 EU per µg as determined by the LAL method.

**Storage:** Lyophilized proteins are stable for up to 12 months when stored at -20 to -80°C. Reconstituted protein solution can be stored at 4-8°C for 2-7 days. Aliquots of reconstituted samples are stable at < -20°C for 3 months.

**Shipping:** This product is provided as lyophilized powder which is shipped with ice packs.

**Formulation:** Lyophilized from sterile PBS, pH 7.4

**Reconstitution:** Please refer to the printed manual for detailed information.

**Application:**

**Synonyms:** Mucin; MUC; Breast carcinoma-associated antigen DF3; Cancer antigen 15-3; CA 15-3; Carcinoma-associated mucin; Episialin; H23AG; Krebs von den Lungen-6; KL-6; PEMT; Peanut-reactive urinary mucin; PUM; Polymorphic epithelial mucin; PEM; Tumor-associated epithelial membrane antigen; EMA; Tumor-associated mucin; CD227; MUC1;ADMCKD;ADMCKD1;CA15-3;MAM6;MCD;MCKD;MCKD1;MUC;MUC/SEC;MUC/X;MUC1/ZD;Mucin 1;PEM

## Immunogen Information:

**Sequence:** Met 1-Gly 167

## Background:

Mucin 1, cell surface associated (MUC1) or polymorphic epithelial mucin (PEM) is a membrane-bound protein that is a member of the mucin family. Mucins are O-glycosylated proteins that play an essential role in forming protective mucous barriers on epithelial surfaces. These proteins also play a role in intracellular signaling. This protein is expressed on the apical surface of epithelial cells that line the mucosal surfaces of many different tissues including lung, breast stomach and pancreas. MUC/CC1/CD227 Exclusively located in the apical domain of the plasma membrane of highly polarized epithelial cells. After endocytosis, internalized and recycled to the cell membrane. This protein is proteolytically cleaved into alpha and beta subunits that form a heterodimeric complex. The N-terminal alpha subunit functions in cell-adhesion and the C-terminal beta subunit is involved in cell signaling. Overexpression, aberrant intracellular localization, and changes in glycosylation of this protein have been associated with carcinomas. The alpha subunit has cell adhesive properties. MUC/CC1/CD227 Can act both as an adhesion and an anti-adhesion protein. This protein May provide a protective layer on epithelial cells against bacterial and enzyme attack. The beta subunit contains a C-terminal domain which is involved in cell signaling, through phosphorylations and protein-protein interactions. MUC/CC1/CD227 participated in modulates signaling in ERK, SRC and NF-kappa-B pathways. In activated T-cells, MUC/CC1/CD227 influences directly or indirectly the Ras/MAPK pathway. MUC/CC1/CD227 Promotes tumor progression and regulates TP53-mediated transcription and determines cell fate in the genotoxic stress response. Binds, together with KLF4, the PE21 promoter element of TP53 and represses TP53 activity.