



## Recombinant Protein Technical Manual

**Recombinant Human p38 delta/MAPK13 Protein  
(GST Tag)**  
RPES3163

### Product Data:

**Product SKU:** RPES3163

**Size:** 20µg

**Species:** Human

**Expression host:** Baculovirus-Insect Cells

**Uniprot:** O15264

### Protein Information:

**Molecular Mass:** 68.4 kDa

**AP Molecular Mass:** 60 kDa

**Tag:** N-GST

**Bio-activity:**

**Purity:** > 95 % 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 20mM Tris, 500mM NaCl, 2mM GSH, 10% gly, pH 7.4

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

**Application:**

**Synonyms:** MAPK3;MAPK13;p38delta;PRKM13;SAPK4

## Immunogen Information:

**Sequence:** Met 1-Leu 365

## Background:

The p38 family of mitogen-activated protein kinases (MAPK) includes p38 alpha (SAPK2a, CSBP), p38 beta (SAPK2b), p38 delta (SAPK4), and p38 gamma (SAPK3/ERK6). p38 alpha and p38 beta are widely expressed p38 isoforms that are involved in regulation of cell proliferation, differentiation, development, and response to stress. p38 delta, also known as MAPK13, is a regulator of differentiation-dependent gene expression in keratinocytes, and been as a regulator of surface epithelia differentiation and apoptosis. p38 delta protein is upregulated in Cholangiocarcinoma (CC) relative to hepatocellularcarcinoma (HCC) and to normal biliary tract tissues. p38 delta is important for motility and invasion of CC cells, suggesting that p38 delta may play an important role in CC metastasis. p38 delta is expressed in the epidermis, suggesting a role for p38 delta in regulating differentiation. p38 delta is the major p38 isoform driving suprabasal involucrin gene expression and that p38 delta directly regulates ERK1/2 activity via formation of a p38 delta-ERK1/2 complex. Recent emerging evidence suggests that the p38 stress MAPK pathway may function as a tumor suppressor through regulating Ras-dependent and -independent proliferation, transformation, invasion and cell death by isoform-specific mechanisms. p38 delta has important role in promoting cell proliferation and tumor development in epidermis and may have therapeutic implication for skin cancer.