



# Recombinant Protein Technical Manual

## Recombinant Human PDE4B/DPDE4 Protein (His & GST Tag)

RPES1269

### Product Data:

**Product SKU:** RPES1269

**Size:** 20µg

**Species:** Human

**Expression host:** Baculovirus-Insect Cells

**Uniprot:** NP\_001032416.1

### Protein Information:

**Molecular Mass:** 92.2 kDa

**AP Molecular Mass:** 100 kDa

**Tag:** N-His & GST

**Bio-activity:**

**Purity:** > 80 % 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 50mM Tris, 100mM NaCl, 0.5mM GSH, 10% gly, 0.5mM PMSF, pH 8.0

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

**Application:**

**Synonyms:** DPDE4;PDEIVB

## Immunogen Information:

**Sequence:** Met 1-Thr 564

## Background:

cAMP-specific 3',5'-cyclic phosphodiesterase 4B, also known as PDE4B and DPDE4, is a member of the cyclic nucleotide phosphodiesterase family. PDE4 subfamily. Cyclic nucleotide phosphodiesterases (PDEs) comprise a large family of enzymes that catalyze the hydrolysis of cAMP or cGMP and are implicated in various diseases. The crystal structures reveal a common scheme of inhibitor binding to the PDEs: (i) a hydrophobic clamp formed by highly conserved hydrophobic residues that sandwich the inhibitor in the active site; (ii) hydrogen bonding to an invariant glutamine that controls the orientation of inhibitor binding. A scaffold can be readily identified for any given inhibitor based on the formation of these two types of conserved interactions. These structural insights will enable the design of isoform-selective inhibitors with improved binding affinity and should facilitate the discovery of more potent and selective PDE inhibitors for the treatment of a variety of diseases. PDE4B / DPDE4 hydrolyzes the second messenger cAMP, which is a key regulator of many important physiological processes. It is expressed in brain, heart, lung and skeletal muscle. PDE4B / DPDE4 may be involved in mediating central nervous system effects of therapeutic agents ranging from antidepressants to antiasthmatic and anti-inflammatory agents