



Recombinant Protein Technical Manual  
Recombinant Human DUSP3/VHR Protein (Active)  
RPES1873

#### Product Data:

**Product SKU:** RPES1873

**Size:** 50µg

**Species:** Human

**Expression host:** Baculovirus-Insect Cells

**Uniprot:** P51452

#### Protein Information:

**Molecular Mass:** 20.6 kDa

**AP Molecular Mass:** 21 kDa

**Tag:**

**Bio-activity:** Measured by hydrolysis of 250 µM 3-O-methyl fluorescein phosphate (OMFP). The specific activity is >1.0 µmol/min/m

**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, 10% glycerol, pH 8.0

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

**Application:**

**Synonyms:** Dual specificity protein phosphatase 3;DUSP3;Dual specificity protein phosphatase VHR;Vaccinia H1-related phosphatase;VHR

## Immunogen Information:

**Sequence:** Met 1-Pro 185

## Background:

Vaccinia H1-related phosphatase (VHR) is classified as a dual-specificity phosphatase (DUSP), and the other name is dual-specificity phosphatase 3 (DUSP3). DUSPs are a heterogeneous group of protein phosphatases that can dephosphorylate both phosphotyrosine and phosphoserine/phosphothreonine residues within the one substrate. Unlike typical DUSPs, VHR lacks mitogen-activated protein kinase (MAPK)-binding domain, and shows poor activity against MAPKs. VHR often act on bisphosphorylated protein substrates, it displays a strong preference for dephosphorylating phosphotyrosine residues over phosphothreonine residues. VHR has been identified as a novel regulator of extracellular regulated kinases (ERKs). VHR is responsible for the rapid inactivation of ERK following stimulation and for its repression in quiescent cells. VHR is a negative regulator of the Erk and Jnk pathways in T cells and, therefore, may play a role in aspects of T lymphocyte physiology that depend on these kinases.