



Recombinant Protein Technical Manual  
Recombinant Human PAK3 Protein (His Tag)(Active)  
RPES2725

### Product Data:

**Product SKU:** RPES2725

**Size:** 20µg

**Species:** Human

**Expression host:** Baculovirus-Insect Cells

**Uniprot:** O75914-2

### Protein Information:

**Molecular Mass:** 62 kDa

**AP Molecular Mass:** 60 kDa

**Tag:** C-His

**Bio-activity:** The specific activity was determined to be 98 nmol/min/mg using MBP as substrate.

**Purity:** > 80 % as determined by reducing SDS-PAGE.

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

**Storage:** Store at < -20°C, stable for 6 months. Please minimize freeze-thaw cycles.

**Shipping:** This product is provided as liquid. It is shipped at frozen temperature with blue ice/gel packs. Upon receipt, store it immediately at < -20°C.

**Formulation:** Supplied as sterile 20mM Tris, 500mM NaCl, pH 7.4, 10% glycerol

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

**Application:**

**Synonyms:** bPAK;CDKN1A;hPAK3;MRX30;MRX47;OPHN3;PAK3beta

## Immunogen Information:

**Sequence:** Met 1-Arg 544

## Background:

PAK3 is a member of PAK proteins, a family of serine/threonine p21-activating kinases, serve as effectors of small Rho GTPases Cdc42 and RAC and have been implicated in a wide range of biological activities. There are six mammalian PAKs which can be divided into two groups: group I PAKs (PAK1-3) and group II PAKs (PAK4-6). Although the two PAK groups are architecturally similar there are differences in their mode of regulation suggesting their cellular functions are likely to be different. Group I p21-activated kinases (PAK1/2/3) is demonstrated as ERK3/ERK4 activation loop kinases. It has been shown that group I PAKs phosphorylate ERK3 and ERK4 on Ser89 and Ser86, respectively, both in vitro and in vivo, and that expression of activated Rac1 augments this response. Besides regulation enzymatic activation of ERK3/ERK4, PAKs can also play roles in downstream activation of MAP kinase-activated protein kinase 5 (MK5) in vivo. Thus, the group I PAKs act as upstream activators of ERK3 and ERK4 and unravel a novel PAK-ERK3/ERK4-MK5 signaling pathway. In clinical, PAK has been proposed as a potential therapeutic target in schwannomas.