

## Recombinant Human PAK3 Protein (His Tag)

Catalog No. PKSH030366

**Note:** Centrifuge before opening to ensure complete recovery of vial contents.

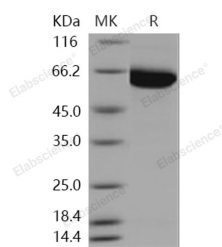
### Description

<b>Synonyms</b>	bPAK;CDKN1A;hPAK3;MRX30;MRX47;OPHN3;PAK3beta
<b>Species</b>	Human
<b>Expression Host</b>	Baculovirus-Insect Cells
<b>Sequence</b>	Met 1-Arg 544
<b>Accession</b>	O75914-2
<b>Calculated Molecular Weight</b>	62.0 kDa
<b>Observed molecular weight</b>	60 kDa
<b>Tag</b>	C-His
<b>Bioactivity</b>	The specific activity was determined to be 98 nmol/min/mg using MBP as substrate.

### Properties

<b>Purity</b>	> 80 % as determined by reducing SDS-PAGE.
<b>Endotoxin</b>	< 1.0 EU per µg of the protein as determined by the LAL method.
<b>Storage</b>	Store at < -20°C, stable for 6 months. Please minimize freeze-thaw cycles.
<b>Shipping</b>	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.
<b>Formulation</b>	Supplied as sterile solution of 20mM Tris, 500mM NaCl, pH 7.4, 10% glycerol
<b>Reconstitution</b>	Not Applicable

### Data



> 80 % as determined by reducing SDS-PAGE.

### 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 Ser-189 and Ser-186, respectively, both

### For Research Use Only

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.