

Human PAK3 Protein (His Tag)

Catalog Number: 11532-H08B



Sino Biological
Biological Solution Specialist

General Information

Gene Name Synonym:

bPAK; CDKN1A; hPAK3; MRX30; MRX47; OPHN3; PAK3beta

Protein Construction:

A DNA sequence encoding the human PAK3 isoform 2 (O75914-2) (Met 1-Arg 544) was fused with a polyhistidine tag at the C-terminus.

Source: Human

Expression Host: Baculovirus-Insect Cells

QC Testing

Purity: > 80 % as determined by SDS-PAGE

Bio Activity:

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

Endotoxin:

< 1.0 EU per µg of the protein as determined by the LAL method

Stability:

Samples are stable for up to twelve months from date of receipt at -70 °C

Predicted N terminal: Met 1

Molecular Mass:

The recombinant human PAK3 consists of 554 amino acids and predicts a molecular mass of 62 kDa. It migrates as an approximately 60 kDa band in SDS-PAGE in SDS-PAGE under reducing conditions.

Formulation:

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

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

Usage Guide

Storage:

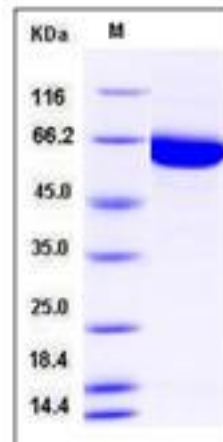
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

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 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.

References

1. Whale A, *et al.* (2011) Signalling to cancer cell invasion through PAK family kinases. *Front Biosci.* 16: 849-64.
2. Deleris P, *et al.* (2011) Activation loop phosphorylation of ERK3/ERK4 by group I p21-activated kinases (PAKs) defines a novel PAK-ERK3/4-MAPK-activated protein kinase 5 signaling pathway. *J Biol Chem.* 286 (8): 6470-8.
3. Canet B, *et al.* (2011) Ovarian clear cell carcinomas: RHO GTPases may contribute to explain their singular biologic behavior. *Hum Pathol.* 42 (6): 833-9.

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