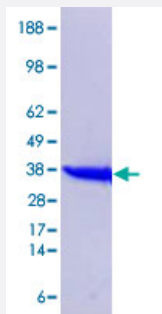


Bioactive

PAK1 (Human) Recombinant Protein

Catalog # P5382 Size 10 ug

Applications



Result of activity analysis

Result of activity analysis

Analysis of enzymatic activity was performed according to the Zlyte assay protocol (Invitrogen):

1. Different concentrations of PAK1 were incubated in a buffer containing 50 mM HEPES pH 7.5, 10 mM MgCl₂, 1 mM EGTA, 200 uM ATP, 0.01% Brij-35, and 2 uM substrate (SER/THR 14, Invitrogen) at RT for 1 hour.
2. Developer solution was added to the reaction and the reaction was stopped after 1 hour of incubation at RT.
3. Fluorescence was then detected using $\lambda_{exc}=460\pm40$ nm and $\lambda_{em}=528\pm20$ nm filters.

Specification

Product Description

Human PAK1 kinase domain (Q13153, 248 a.a. - 545 a.a.) partial recombinant protein expressed in *Escherichia coli*. The recombinant protein does not have the inhibitory switch domain and has high specific activity.

Sequence	GPHMSDEEILEKLRSIVSVGDPKKKYTRFEKIGQGASGTVYTAMD VATGQEVAIKQMN LQQQPKK ELIINEILVMRENKNPNVNYLDSYLVGDELWVVM EYLAGGSLTDVVTETCMDEGQIAAVCRECLQA LEFLHSNQVIHRDIKSDNILLGMDGSVKLTDFGFC AQITPEQSKRS<u>T</u>MVGTPYWMAPEVVTRKAYG PKVDIWSL GIMAIEMIEGEPPLYNENPLRALYLIATNGTPELQNPEKLSAIFRDFLNR CLEMDVEKRG SAKELLQHQLKIAKPLSSLTPLIAAAKEATKNNH The first 4 residues GPHM are from Turbo3C Protease cleavage site. The underlined T is phosphorylated T423.
Host	Escherichia coli
Theoretical MW (kDa)	33.7
Form	Liquid
Preparation Method	<i>Escherichia coli</i> expression system
Concentration	1 mg/ml
Activity	Specific activity: 32,638 pmoles/min/ug
Quality Control Testing	Loading 8 ug protein in SDS-PAGE
Storage Buffer	In 25 mM Tris-HCl pH 8.0, 150 mM NaCl, 10% glycerol, 5 mM DTT.
Storage Instruction	Store at -80°C. Aliquot to avoid repeated freezing and thawing.
Note	Result of activity analysis Result of activity analysis Analysis of enzymatic activity was performed according to the Zlyte assay protocol (Invitrogen): 1. Different concentrations of PAK1 were incubated in a buffer containing 50 mM HEPES pH 7.5, 10 mM MgCl₂, 1 mM EGTA, 200 uM ATP, 0.01% Brij-35, and 2 uM substrate (SER/THR 14, Invitrogen) at RT for 1 hour. 2. Developer solution was added to the reaction and the reaction was stopped after 1 hour of incubation at RT. 3. Fluorescence was then detected using λ_{exc}=460±40 nm and λ_{em}=528±20 nm filters.

Applications

- Functional Study
- SDS-PAGE

Gene Info — PAK1

Entrez GeneID [5058](#)

Protein Accession#	Q13153
Gene Name	PAK1
Gene Alias	MGC130000, MGC130001, PAKalpha
Gene Description	p21 protein (Cdc42/Rac)-activated kinase 1
Omim ID	602590
Gene Ontology	Hyperlink
Gene Summary	PAK proteins are critical effectors that link RhoGTPases to cytoskeleton reorganization and nuclear signaling. PAK proteins, a family of serine/threonine p21-activating kinases, include PAK1, PAK2, PAK3 and PAK4. These proteins serve as targets for the small GTP binding proteins Cdc42 and Rac and have been implicated in a wide range of biological activities. PAK1 regulates cell motility and morphology. Alternatively spliced transcript variants encoding different isoforms have been found for this gene. [provided by RefSeq]
Other Designations	STE20 homolog, yeast p21-activated kinase 1 p21/Cdc42/Rac1-activated kinase 1 (STE20 homolog, yeast) p21/Cdc42/Rac1-activated kinase 1 (yeast Ste20-related)

Publication Reference

- [Pak1 Kinase Maintains Apical Membrane Identity in Epithelia.](#)

Aguilar-Aragon M, Elbediwy A, Foglizzo V, Fletcher GC, Li VSW, Thompson BJ.
Cell Reports 2018 Feb; 22:1639.

Application: In vitro kinase assay, PAK1 protein

- [Rho-Kinase Planar Polarization at Tissue Boundaries Depends on Phospho-regulation of Membrane Residence Time.](#)

Sidor C, Stevens TJ, Jin L, Boulanger J, Röper K.
The Annals of Thoracic Surgery 1991 May; 51(5):848.

Application: KA, Recombinant protein

Pathway

- [Axon guidance](#)
- [Chemokine signaling pathway](#)
- [Epithelial cell signaling in Helicobacter pylori infection](#)
- [ErbB signaling pathway](#)

- [Fc gamma R-mediated phagocytosis](#)
- [Focal adhesion](#)
- [MAPK signaling pathway](#)
- [Natural killer cell mediated cytotoxicity](#)
- [Regulation of actin cytoskeleton](#)
- [Renal cell carcinoma](#)
- [T cell receptor signaling pathway](#)

Disease

- [Carcinoma](#)
- [Esophageal Neoplasms](#)
- [HIV Infections](#)
- [Tobacco Use Disorder](#)