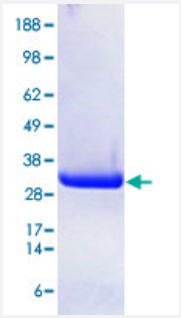
Bioactive

PAK7 (Human) Recombinant Protein

Catalog # P5385 Size 10 ug

Applications



Result of activity analysis

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Analysis of enzymatic activity was performed according to the Zlyte assay protocol (Invitrogen):
1. Different concentrations of PAK7 were incubated in a buffer containing 50 mM HEPES pH 7.5, 10 mM $MgCl_2$, 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 λexc=460±40 nm and λem=528±20 nm filters.

Specification

Product Description	Human PAK7 kinase domain (Q9P286, 425 a.a. - 719 a.a.) partial recombinant protein expressed in *Escherichia coli*.

Sequence	**GPHM**SRVSHEQFRAALQLVVSPGDPREYLANFIKIGEGSTGIVCIATEKHTGKQVAVKKMDLRKQ QRRELLFNEVVIMRDYHHDNVVDMYSSYLVGDELWVVMEFLEGGALTDIVTHTRMNEEQIATVCL SVLRALSYLHNQGVIHRDIKSDSILLTSDGRIKLSDFGFCAQVSKEVPKRK**S**LVGTPYWMAPEVISR LPYGTEVDIWSLGIMVIEMIDGEPPYFNEPPLQAIRRIRDSLPPRVKDLHKVSSVLRGFLDLMLVRE PSQRATAQELLGHPFLKLAGPPSCIVPLMRQYRHH The first 4 residues **GPHM** are from Turbo3C Protease cleavage site. The underlined **S** is phosphory lated S602.
Host	Escherichia coli
Theoretical MW (kDa)	33.9
Form	Liquid
Preparation Method	*Escherichia coli* expression system
Concentration	1 mg/ml
Activity	Specific activity: 4,199 pmoles/min/ug
Quality Control Testing	Loading 12 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 PAK7 were incubated in a buffer containing 50 mM HEPES pH 7.5, 10 mM $MgCl_2$, 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 incubat ion at RT. 3. Fluorescence was then detected using λexc=460±40 nm and λem=528±20 nm filters.

Applications

- Functional Study
- SDS-PAGE

Gene Info — PAK7

Entrez GeneID	57144

Protein Accession#	Q9P286
Gene Name	PAK7
Gene Alias	KIAA1264, MGC26232, PAK5
Gene Description	p21 protein (Cdc42/Rac)-activated kinase 7
Omim ID	608038
Gene Ontology	Hyperlink
Gene Summary	The protein encoded by this gene is a member of the PAK family of Ser/Thr protein kinases. PAK family members are known to be effectors of Rac/Cdc42 GTPases, which have been implicated in the regulation of cytoskeletal dynamics, proliferation, and cell survival signaling. This kinase contains a CDC42/Rac1 interactive binding (CRIB) motif, and has been shown to bind CDC42 in the presence of GTP. This kinase is predominantly expressed in brain. It is capable of promoting neurite outgrowth, and thus may play a role in neurite development. This kinase is associated with microtubule networks and induces microtubule stabilization. The subcellular localization of this kinase is tightly regulated during cell cycle progression. Alternatively spliced transcript variants encoding the same protein have been described. [provided by RefSeq
Other Designations	OTTHUMP00000030258|OTTHUMP00000030259|OTTHUMP00000030260|p21(CDKN1A)-activated kinase 7|p21-activated kinase 7|protein kinase PAK5|serine/threonine-protein kinase PAK 7

Pathway

- Axon guidance
- ErbB signaling pathway
- Focal adhesion
- Regulation of actin cytoskeleton
- Renal cell carcinoma
- T cell receptor signaling pathway

Disease

- Genetic Predisposition to Disease
- Kidney Failure
- Parkinson disease

- Tobacco Use Disorder