Recombinant PK1 protein (His tag)

Catalog Number	531069
Synonyms	CePAK; p21-activated kinase 1; PAK1
Species	Caenorhabditis elegans
Expression System	E. coli
Accession	Q17850
Gene ID	180873
Molecular Weight	Predictes a molecular mass of 35.25 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 36 kDa band.

Product Information

Sequence Region	273-572
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>89%, by SDS-PAGE with Coomassie Brilliant Blue staining.
Endotoxin	Not tested.
Activity	Not tested.
Stability	Samples are stable for up to twelve months from date of receipt at -70℃
Protein Construction	DNA encoding 273-572 aa (Q17850) were fused with 6His tag.

Storage & Handling

Reconstitution	Reconstitute at 0.25 μg/μl in sterile water for short-term storage. Reconstitution with 50% glycerol solution is recommended for longer term storage (see Stability and Storage for more details). If a different concentration is needed for your purposes please adjust the reconstitution volume as required (please note: the ion concentration of the final solution will vary according to the volume used). Note: Centrifuge vial before opening. When reconstituting, gently pipet and wash down the sides of the vial to ensure full recovery of the protein into solution.
Storage	Store it under sterile conditions at -20℃ to -80℃. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.
Shipping	In general, recombinant proteins are provided as lyophilized powder which are shipped at ambient temperature. Bulk packages of recombinant proteins are provided as frozen liquid. They are shipped out with blue ice unless customers require otherwise.

Description

Description	Recombinant Serine/threonine-protein kinase pak-1 (EC 2.7.11.1) fragment (residues 273-572) from Caenorhabditis elegans, encompassing the complete Protein kinase domain. This high-purity fragment is an essential tool for investigating kinase activity, signaling mechanisms, and cytoskeletal regulation in developmental and neuronal processes. Serine/threonine-protein kinase pak-1 (PAK1) is a p21-activated kinase that plays critical roles in cytoskeletal reorganization and cell migration in C. elegans. It functions downstream of Rho GTPases (including cdc-42, mig-2, and ced-10) to regulate multiple developmental processes: embryonic body elongation through hypodermal cell fusion, axonal guidance in commissural motoneurons, HSN neuron orientation, P neuroblast migration, and distal tip cell migration during gonad morphogenesis. The protein localizes to multiple cellular compartments including the cell membrane (as a peripheral membrane protein), cytoplasm, axons, and perikaryon, where it interacts with partners such as pix-1 and git-1. Evidence suggests it may phosphorylate mlc-4, indicating its involvement in myosin regulation. This kinase serves as a key integrator of cytoskeletal dynamics across multiple tissue contexts.