Serine/Threonine-Protein Kinase N1 (PKN1) Rat Recombinant Protein

PRODUCT OVERVIEW

Product Name	Serine/threonine-protein kinase N1 (Pkn1), Recombinant Protein
Full Product Name	Recombinant Rat Serine/threonine-protein kinase N1 (Pkn1) , partial
Product Gene Name	Pkn1 recombinant protein
Product Synonym Gene Name	Pkn1
Host	E Coli or Yeast or Baculovirus or Mammalian Cell
Form/Format	Lyophilized or liquid (Format to be determined during the manufacturing process)
Purity/Purification	Greater or equal to 85% purity as determined by SDS-PAGE. (lot specific)
Preparation and Storage	Store at -20 degrees C. For long-term storage, store at -20 degrees C or -80 degrees C. Store working aliquots at 4 degrees C for up to one week. Repeated freezing and thawing is not recommended.
Molecular Weight	104,468 Da
Tag Information	This protein contains an N-terminal tag and may also contain a C-terminal tag. Tag types are determined by various factors including tag-protein stability, please inquire for tag information.
Sterility	Sterile filter available upon request.
Endotoxin	Low endotoxin available upon request.
3D Structure	ModBase 3D Structure for Q63433
Species	Rat
ISO Certification	Manufactured in an ISO 9001:2015 Certified Laboratory.
Related Product Information for Pkn1 recombinant protein	This protein belongs to the protein kinase C superfamily. This kinase is activated by Rho family of small G proteins and may mediate the Rho-dependent signaling pathway. This kinase can be activated by phospholipids and by limited proteolysis. The 3-phosphoinositide dependent protein kinase-1 (PDPK1 PDK1) is reported to phosphorylate this kinase, which may mediate insulin signals to the actin cytoskeleton. The proteolytic activation of this kinase by caspase-3 or related proteases during apoptosis suggests its role in signal transduction related to apoptosis. Alternatively spliced transcript variants encoding distinct isoforms have been observed.
Other Notes	Small volumes of Pkn1 recombinant protein vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for Pkn1 purchase	MBS1479110 is a recombinant protein targeting Pkn1. Also known as Recombinant Rat Serine/threonine-protein kinase N1 (Pkn1) , partial. Host: E Coli or Yeast or Baculovirus or Mammalian Cell.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for Pkn1. It may not necessarily be applicable to this product.

NCBI GI #	166063985
NCBI GeneID	29355
NCBI Accession #	NP_058871.2
UniProt Primary Accession #	Q63433
UniProt Secondary Accession #	Q6P748; Q8VIJ2

UniProt Related Accession #	Q63433
GenBank Nucleotide #	NM_017175.2
NCBI Official Full Name	serine/threonine-protein kinase N1
NCBI Official Synonym Full Names	protein kinase N1
NCBI Official Symbol	Pkn1
NCBI Official Synonym Symbols	PAK-1; Prkcl1
UniProt Protein Name	Serine/threonine-protein kinase N1
UniProt Synonym Protein Names	Protease-activated kinase 1; PAK-1; Protein kinase C-like 1; Protein kinase C-like PKN; Protein-kinase C-related kinase 1; Serine-threonine protein kinase N
Protein Family	Serine/threonine-protein kinase
UniProt Gene Name	Pkn1
UniProt Synonym Gene Names	Pkn; Prk1; Prkcl1; PAK-1
NCBI Protein Information	serine/threonine-protein kinase N1
NCBI Summary for Pkn1	displays phosphorylation dependent protein kinase activity [RGD, Feb 2006]
UniProt Comments for Pkn1	PKC-related serine/threonine-protein kinase involved in various processes such as regulation of the intermediate filaments of the actin cytoskeleton, cell migration, tumor cell invasion and transcription regulation (PubMed:8051089, PubMed:15375078). Part of a signaling cascade that begins with the activation of the adrenergic receptor ADRA1B and leads to the activation of MAPK14 (). Regulates the cytoskeletal network by phosphorylating proteins such as VIM and neurofilament proteins NEFH, NEFL and NEFM, leading to inhibit their polymerization. Phosphorylates 'Ser-575', 'Ser-637' and 'Ser-669' of MAPT/Tau, lowering its ability to bind to microtubules, resulting in disruption of tubulin assembly. Acts as a key coactivator of androgen receptor (ANDR)-dependent transcription, by being recruited to ANDR target genes and specifically mediating phosphorylation of 'Thr-11' of histone H3 (H3T11ph), a specific tag for epigenetic transcriptional activation that promotes demethylation of histone H3 'Lys-9' (H3K9me) by KDM4C/JMJD2C. Phosphorylates HDAC5, HDAC7 and HDAC9, leading to impair their import in the nucleus. Phosphorylates 'Thr-38' of PPP1R14A, 'Ser-159', 'Ser-163' and 'Ser-170' of MARCKS, and GFAP. Able to phosphorylate RPS6 in vitro ().
Research Articles on Pkn1	**1.** Protein kinase N1 is a novel substrate of NFATc1-mediated cyclin D1-CDK6 activity and modulates vascular smooth muscle cell division and migration leading to inward blood vessel wall remodeling.
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