

PAK3 Antibody (Center K218) Blocking Peptide
Synthetic peptide
Catalog # BP7928a**Specification**

PAK3 Antibody (Center K218) Blocking Peptide - Product InformationPrimary Accession [O75914](#)**PAK3 Antibody (Center K218) Blocking Peptide - Additional Information****Gene ID** 5063**Other Names**

Serine/threonine-protein kinase PAK 3, Beta-PAK, Oligophrenin-3, p21-activated kinase 3, PAK-3, PAK3, OPHN3

Target/Specificity

The synthetic peptide sequence used to generate the antibody [AP7928a](/product/products/AP7928a) was selected from the Center region of human PAK3. A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

Format

Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions

This product is for research use only. Not for use in diagnostic or therapeutic procedures.

PAK3 Antibody (Center K218) Blocking Peptide - Protein Information**Name** PAK3**Synonyms** OPHN3**Function**

Serine/threonine protein kinase that plays a role in a variety of different signaling pathways including cytoskeleton regulation, cell migration, or cell cycle regulation. Plays a role in dendrite spine morphogenesis as well as synapse formation and plasticity. Acts as a downstream effector of the small GTPases CDC42 and RAC1. Activation by the binding of active CDC42 and RAC1 results in a conformational change and a subsequent autophosphorylation on several serine and/or threonine residues. Phosphorylates MAPK4 and MAPK6 and activates the downstream target MAPKAPK5, a regulator of F-actin polymerization and cell migration. Additionally, phosphorylates TNNI3/troponin I to modulate calcium sensitivity and relaxation kinetics of thin myofilaments. May also be involved in early neuronal development. In hippocampal neurons, necessary for the

formation of dendritic spines and excitatory synapses; this function is dependent on kinase activity and may be exerted by the regulation of actomyosin contractility through the phosphorylation of myosin II regulatory light chain (MLC) (By similarity).

Cellular Location

Cytoplasm.

Tissue Location

Restricted to the nervous system. Highly expressed in postmitotic neurons of the developing and postnatal cerebral cortex and hippocampus.

PAK3 Antibody (Center K218) Blocking Peptide - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Blocking Peptides](#)

PAK3 Antibody (Center K218) Blocking Peptide - Images**PAK3 Antibody (Center K218) Blocking Peptide - Background**

PAK3, a member of the STE20 subfamily of Ser/Thr protein kinases, acts on a variety of targets. PAK3 interacts tightly with GTP-bound but not GDP-bound CDC42/p21 and RAC1. It shows highly specific binding to the SH3 domains of phospholipase C-gamma and of adapter protein NCK. This protein is highly expressed in postmitotic neurons of the developing and postnatal cerebral cortex and hippocampus. PAK3 is autophosphorylated when activated by CDC42/p21. Defects in PAK3 are the cause of non-specific X-linked nonsyndromic mental retardation type 30 (MRX30). The protein structure contains 1 CRIB domain.

PAK3 Antibody (Center K218) Blocking Peptide - References

Kitano, T., et al., Mol. Biol. Evol. 20(8):1281-1289 (2003). Allen, K.M., et al., Nat. Genet. 20(1):25-30 (1998).