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PAK3

Purified Mouse Monoclonal Antibody
Catalog # AO2502a

Product Information

Application	WB, IHC, ICC, E
Primary Accession	O75914
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Clone Names	4G8A5
Isotype	Mouse IgG1
Calculated MW	62310
Immunogen	Purified recombinant fragment of human PAK3 (AA: 1-100) expressed in E. Coli.
Formulation	Purified antibody in PBS with 0.05% sodium azide

Additional Information

Gene ID	5063
Other Names	ARA; bPAK; MRX30; MRX47; OPHN3; PAK-3; PAK3beta; beta-PAK
Dilution	WB~~ 1/500 - 1/2000 IHC~~1:100~500 ICC~~N/A E~~ 1/10000
Storage	Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	PAK3 is for research use only and not for use in diagnostic or therapeutic procedures.

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.

References

1.J Mol Biol. 2014 Oct 23;426(21):3520-38.2.J Biol Chem. 2011 Nov 18;286(46):40044-59.

Images

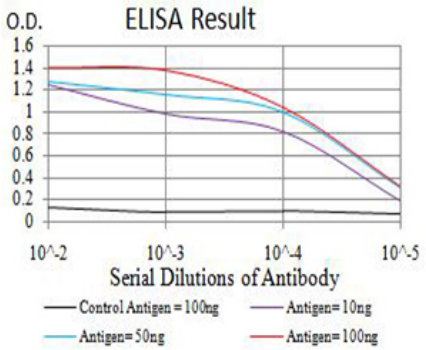

Figure 1:Black line: Control Antigen (100 ng);Purple line: Antigen (10ng); Blue line: Antigen (50 ng); Red line:Antigen (100 ng)

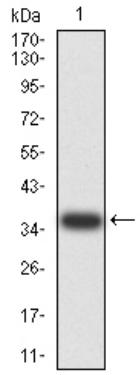

Figure 2:Western blot analysis using PAK3 mAb against human PAK3 (AA: 1-100) recombinant protein. (Expected MW is 37 kDa)

Figure 3:Western blot analysis using PAK3 mAb against HEK293 (1) and PAK3 (AA: 1-100)-hIgGFc transfected HEK293 (2) cell lysate.

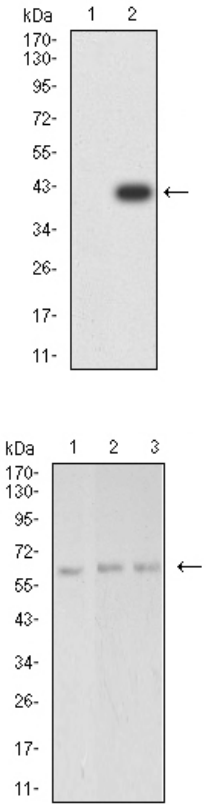

Figure 4:Western blot analysis using PAK3 mouse mAb against Hela (1), SK-N-SH (2), and T47D (3) cell lysate.