10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

TAOK1 Antibody (Center)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP7085c

Product Information

Application	WB, E
Primary Accession	Q7L7X3
Other Accession	O88664, Q5F2E8, Q7ZYJ0, Q6NU21
Reactivity	Human
Predicted	Xenopus, Mouse, Rat, Bovine, Canine, Rabbit, Chicken
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB9765
Calculated MW	116070
Antigen Region	620-650

Additional Information

Gene ID	57551
Other Names	Serine/threonine-protein kinase TAO1, Kinase from chicken homolog B, hKFC-B, MARK Kinase, MARKK, Prostate-derived sterile 20-like kinase 2, PSK-2, PSK2, Prostate-derived STE20-like kinase 2, Thousand and one amino acid protein kinase 1, TAOK1, hTAOK1, TAOK1, KIAA1361, MAP3K16, MARKK
Target/Specificity	This TAOK1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 620-650 amino acids from the Central region of human TAOK1.
Dilution	WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	TAOK1 Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

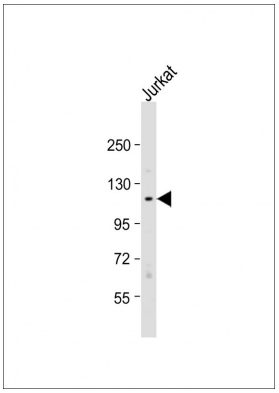
Name	TAOK1

Synonyms	KIAA1361, MAP3K16, MARKK
Function	Serine/threonine-protein kinase involved in various processes such as p38/MAPK14 stress-activated MAPK cascade, DNA damage response and regulation of cytoskeleton stability. Phosphorylates MAP2K3, MAP2K6 and MARK2. Acts as an activator of the p38/MAPK14 stress-activated MAPK cascade by mediating phosphorylation and subsequent activation of the upstream MAP2K3 and MAP2K6 kinases. Involved in G protein-coupled receptor signaling to p38/MAPK14. In response to DNA damage, involved in the G2/M transition DNA damage checkpoint by activating the p38/MAPK14 stress-activated MAPK cascade, probably by mediating phosphorylation of MAP2K3 and MAP2K6. Acts as a regulator of cytoskeleton stability by phosphorylating 'Thr-208' of MARK2, leading to activate MARK2 kinase activity and subsequent phosphorylation and detachment of MAPT/TAU from microtubules. Also acts as a regulator of apoptosis: regulates apoptotic morphological changes, including cell contraction, membrane blebbing and apoptotic bodies formation via activation of the MAPK8/JNK cascade. Plays an essential role in the regulation of neuronal development in the central nervous system (PubMed:33565190). Also plays a role in the regulation of neuronal migration to the cortical plate (By similarity).
Cellular Location	Cytoplasm.
Tissue Location	Highly expressed in the testis, and to a lower extent also expressed in brain, placenta, colon and skeletal muscle

Background

TAOK1 is an upstream activator of Mark. TAOK1 phosphorylated Mark on a threonine within its activation loop. In brain, TAOK1 also phosphorylated a fraction of Mark on a nearby serine, and this phosphorylation inhibited Mark activity. In cells, TAOK1 activity enhanced microtubule dynamics through activation of Mark and led to phosphorylation and detachment of microtubule-associated proteins from microtubules. TAOK1 also activated JNK in vitro. Overexpression of TAOK1 in a human nonsmall cell lung carcinoma cell line induced apoptotic morphologic changes, including cell contraction, membrane blebbing, and apoptotic body formation. Apoptotic stimuli increased the catalytic activity of endogenous TAOK1 and JNK, and dominant-negative JNK or JNK inhibition blocked the apoptotic morphologic responses to TAOK1. TAOK1 also stimulated cleavage and activation of ROCK1 by caspases, leading to cell contraction and membrane blebbing. TAOK1 was itself a substrate for caspase-3. TAOK1 is indeed involved in the execution phase of apoptosis.

Images



Anti-TAOK1 Antibody (Center) at 1:1000 dilution + Jurkat whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 116 kDa Blocking/Dilution buffer: 5% NFDM/TBST.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.