

TAOK1 Antibody (Center) Blocking Peptide
Synthetic peptide
Catalog # BP7085c**Specification**

TAOK1 Antibody (Center) Blocking Peptide - Product InformationPrimary Accession [Q7L7X3](#)**TAOK1 Antibody (Center) Blocking Peptide - 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

The synthetic peptide sequence used to generate the antibody [AP7085c](/product/products/AP7085c) was selected from the Center region of human TAOK1. 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.

TAOK1 Antibody (Center) Blocking Peptide - 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

TAOK1 Antibody (Center) Blocking Peptide - Protocols

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

- [Blocking Peptides](#)

TAOK1 Antibody (Center) Blocking Peptide - Images**TAOK1 Antibody (Center) Blocking Peptide - 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.