

TAOK1 (TAO1) Antibody (Center) Blocking peptide
Synthetic peptide
Catalog # BP7969c**Specification**

TAOK1 (TAO1) Antibody (Center) Blocking peptide - Product InformationPrimary Accession [Q7L7X3](#)**TAOK1 (TAO1) 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 [AP7969c](/product/products/AP7969c) was selected from the Center region of human TAO1 . 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 (TAO1) 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 (TAO1) Antibody (Center) Blocking peptide - Protocols

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

- [Blocking Peptides](#)

TAOK1 (TAO1) Antibody (Center) Blocking peptide - Images**TAOK1 (TAO1) Antibody (Center) Blocking peptide - Background**

Protein kinases are enzymes that transfer a phosphate group from a phosphate donor, generally the γ phosphate of ATP, onto an acceptor amino acid in a substrate protein. By this basic mechanism, protein kinases mediate most of the signal transduction in eukaryotic cells, regulating cellular metabolism, transcription, cell cycle progression, cytoskeletal rearrangement and cell movement, apoptosis, and differentiation. With more than 500 gene products, the protein kinase family is one of the largest families of proteins in eukaryotes. The family has been classified in 8 major groups based on sequence comparison of their tyrosine (PTK) or serine/threonine (STK) kinase catalytic domains. The STE group (homologs of yeast Sterile 7, 11, 20 kinases) consists of 50 kinases related to the mitogen-activated protein kinase (MAPK) cascade families (Ste7/MAP2K, Ste11/MAP3K, and Ste20/MAP4K). MAP kinase cascades, consisting of a MAPK and one or more upstream regulatory kinases (MAPKKs) have been best characterized in the yeast pheromone response pathway. Pheromones bind to Ste cell surface receptors and activate yeast MAPK pathway.

TAOK1 (TAO1) Antibody (Center) Blocking peptide - References

Ota, T., et al., Nat. Genet. 36(1):40-45 (2004). Clark, H.F., et al., Genome Res. 13(10):2265-2270 (2003). Chen, Z., et al., J. Biol. Chem. 278(25):22278-22283 (2003). Mitsopoulos, C., et al., J. Biol. Chem. 278(20):18085-18091 (2003). Moore, T.M., et al., J. Biol. Chem. 275(6):4311-4322 (2000).