

TAO Kinase 2 (TAOK2) Antibody (C-term) Blocking peptide
Synthetic peptide
Catalog # BP7682a**Specification**

TAO Kinase 2 (TAOK2) Antibody (C-term) Blocking peptide - Product InformationPrimary Accession
Other Accession[O9UL54](#)
[NP_057235](#)**TAO Kinase 2 (TAOK2) Antibody (C-term) Blocking peptide - Additional Information****Gene ID** 9344**Other Names**

Serine/threonine-protein kinase TAO2, Kinase from chicken homolog C, hKFC-C, Prostate-derived sterile 20-like kinase 1, PSK-1, PSK1, Prostate-derived STE20-like kinase 1, Thousand and one amino acid protein kinase 2, TAOK2, KIAA0881, MAP3K17, PSK, PSK1

Target/Specificity

The synthetic peptide sequence used to generate the antibody [AP7682a](/product/products/AP7682a) was selected from the C-term region of human TAO2. 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.

TAO Kinase 2 (TAOK2) Antibody (C-term) Blocking peptide - Protein Information**Name** TAOK2**Synonyms** KIAA0881, MAP3K17, PSK, PSK1**Function**

Serine/threonine-protein kinase involved in different processes such as membrane blebbing and apoptotic bodies formation DNA damage response and MAPK14/p38 MAPK stress-activated MAPK cascade. Phosphorylates itself, MBP, activated MAPK8, MAP2K3, MAP2K6 and tubulins. Activates the MAPK14/p38 MAPK signaling pathway through the specific activation and phosphorylation of the upstream MAP2K3 and MAP2K6 kinases. 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 upstream MAP2K3 and MAP2K6 kinases. Isoform 1, but

not isoform 2, plays a role in apoptotic morphological changes, including cell contraction, membrane blebbing and apoptotic bodies formation. This function, which requires the activation of MAPK8/JNK and nuclear localization of C- terminally truncated isoform 1, may be linked to the mitochondrial CASP9-associated death pathway. Isoform 1 binds to microtubules and affects their organization and stability independently of its kinase activity. Prevents MAP3K7-mediated activation of CHUK, and thus NF- kappa-B activation, but not that of MAPK8/JNK. May play a role in the osmotic stress-MAPK8 pathway. Isoform 2, but not isoform 1, is required for PCDH8 endocytosis. Following homophilic interactions between PCDH8 extracellular domains, isoform 2 phosphorylates and activates MAPK14/p38 MAPK which in turn phosphorylates isoform 2. This process leads to PCDH8 endocytosis and CDH2 cointernalization. Both isoforms are involved in MAPK14 phosphorylation.

Cellular Location

Cytoplasmic vesicle membrane; Multi-pass membrane protein. Cytoplasm, cytoskeleton Nucleus. Note=Catalytically active full-length phosphorylated isoform 1 localizes to microtubules in the cytoplasm predominantly on microtubule cables positioned around the nucleus. A C-terminally truncated form of isoform 1 is present in the nucleus; isoform 2 and kinase-defective, as well as full-length isoform 1 are excluded from the nucleus

Tissue Location

Ubiquitously expressed, with a higher level of expression in testis and brain.

TAO Kinase 2 (TAOK2) Antibody (C-term) Blocking peptide - Protocols

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

- [Blocking Peptides](#)

TAO Kinase 2 (TAOK2) Antibody (C-term) Blocking peptide - Images

TAO Kinase 2 (TAOK2) Antibody (C-term) 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.

TAO Kinase 2 (TAOK2) Antibody (C-term) Blocking peptide - References

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). Hutchison, M., et al., J. Biol. Chem. 273(44):28625-28632 (1998).