

# TAO2 (H-59): sc-135258

## BACKGROUND

Several mammalian kinases have been identified with sequence similarity to the *Saccharomyces cerevisiae* serine/threonine kinase Ste20. Ste20 is involved in relaying signals from G protein-coupled receptors to cytosolic MAP kinase cascades, and it lies upstream of a MEK kinase. Thousand and one amino acid protein 2 (TAO2), also designated prostate-derived Ste20-like kinase 1 (PSK1) or kinase from chicken homolog C (KFC-C), belongs to the Ste20 subfamily of the Ser/Thr protein kinase family. TAO2 acts as an activator of the JNK MAP kinase pathway through the specific activation of MKK3 and MKK6 kinases. It is a multi-pass membrane protein detected in cytoplasmic vesicle membranes. TAO2 is ubiquitously expressed with highest levels found in brain and testis.

## REFERENCES

1. Moore, T.M., et al. 2000. PSK, a novel Ste20-like kinase derived from prostatic carcinoma that activates the c-Jun N-terminal kinase mitogen-activated protein kinase pathway and regulates actin cytoskeletal organization. *J. Biol. Chem.* 275: 4311-4322.
2. Yustein, J.T., et al. 2003. Comparative studies of a new subfamily of human Ste20-like kinases: homodimerization, subcellular localization, and selective activation of MKK3 and p38. *Oncogene* 22: 6129-6141.
3. Zhou, T., et al. 2004. Crystal structure of the TAO2 kinase domain: activation and specificity of a Ste20p MAP3K. *Structure* 12: 1891-1900.
4. Takekawa, M., et al. 2005. Conserved docking site is essential for activation of mammalian MAP kinase kinases by specific MAP kinase kinase kinases. *Mol. Cell* 18: 295-306.
5. Zhou, T.J., et al. 2006. Crystal structure of the MAP3K TAO2 kinase domain bound by an inhibitor staurosporine. *Acta Biochim. Biophys. Sin.* 38: 385-392.

## CHROMOSOMAL LOCATION

Genetic locus: TAO2 (human) mapping to 16p11.2; Taok2 (mouse) mapping to 7 F3.

## SOURCE

TAO2 (H-59) is a rabbit polyclonal antibody raised against amino acids 506-564 mapping within an internal region of TAO2 of human origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.

## APPLICATIONS

TAO2 (H-59) is recommended for detection of TAO2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

TAO2 (H-59) is also recommended for detection of TAO2 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for TAO2 siRNA (h): sc-61642, TAO2 siRNA (m): sc-61643, TAO2 shRNA Plasmid (h): sc-61642-SH, TAO2 shRNA Plasmid (m): sc-61643-SH, TAO2 shRNA (h) Lentiviral Particles: sc-61642-V and TAO2 shRNA (m) Lentiviral Particles: sc-61643-V.

Molecular Weight of TAO2: 120 kDa.

Positive Controls: mouse brain extract: sc-2253, PC-12 cell lysate: sc-2250 or rat cerebellum extract: sc-2398.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.



Try **TAO2 (C-2): sc-514268** or **TAO2 (H-8): sc-514254**, our highly recommended monoclonal alternatives to TAO2 (H-59).