Phospho-TAO2 (S181) Antibody

Antigen Affinity-purified Polyclonal Rabbit IgG
Catalog Number: PPS037

DESCRIPTION

Species Reactivity	Human/Mouse/Rat/*Xenopus*
Specificity	This antibody is specific for the ~120 kDa TAO2 phosphorylated at S181 in Western blots of rat cortex lysate.
Source	Polyclonal Rabbit IgG
Purification	Antigen Affinity-purified
Immunogen	Phosphopeptide corresponding to amino acid residues surrounding the phospho-S181 of TAO2
Formulation	100 µL in 10 mM HEPES (pH 7.5), 150 mM NaCl, 100 µg/mL BSA and 50% glycerol. See Certificate of Analysis for details.

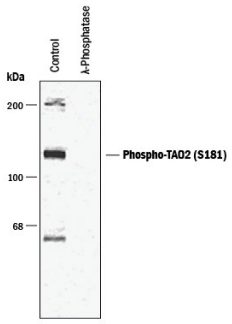
APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Western Blot	1:1000 dilution	See Below

DATA

Western Blot



Detection of Phospho-TAO2 (S181) by Western Blot. Western blot of rat cortex lysate showing specific immunolabeling of the ~120 kDa TAO2 phosphorylated at S181 (Control). The phosphospecificity of this labeling is demonstrated by treatment with 1200 units of λ phosphatase (λ PPase) for 30 minutes before being exposed to the anti-Phospho-TAO2 (S181). The immunolabeling is completely eliminated by treatment with λ PPase.

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	For long-term storage, ≤ -20° C is recommended. Product is stable at ≤ -20° C for at least 1 year.

BACKGROUND

TAO2 (thousand and one amino acid protein kinase 2; also known as MAPK3) is a 160 kDa, 1235 amino acid (aa) kinase that belongs to the Serine/Threonine protein kinase family. It is part of a stress-sensitive kinase cascade that activates and phosphorylates MEK3, 4, and 6. The molecule is reported to be an intracellular serpentine transmembrane (TM) molecule with four or five TM segments that involve aa 965-1065. The N-terminal region contains a protein kinase domain (aa 28-231) followed by glutamic acid and serine rich regions (aa 330-405). Phosphorylation of S181 activates the enzyme. It is unclear if this is an autophosphorylation event. One isoform exists that utilizes an alternate start site at position 174, followed by a unique 44 aa N-terminus. This lacks the catalytic serine found in the standard isoform. Its function is unclear.

References:

1. Chen, Z. *et al.* (1999) J. Biol. Chem. **274**:28803.
2. Chen, Z. and M.H. Cobb (2001) J. Biol. Chem. **276**:16070.
3. Moore, T.M. *et al.* (2000) J. Biol. Chem. **275**:4311.
4. Zhou, T. *et al.* (2004) Structure **12**:1891.
5. SwissProt Accession #: Q9UL54.

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