

# Anti-MKK4 (pT261) Antibody

Rabbit polyclonal antibody to MKK4 (pT261) Catalog # AP59697

#### Specification

# Anti-MKK4 (pT261) Antibody - Product Information

Application Primary Accession Other Accession Reactivity Host Clonality Calculated MW WB, IF/IC, IHC <u>P45985</u> <u>P47809</u> Human, Mouse, Rat, Zebrafish, Bovine Rabbit Polyclonal 44288

### Anti-MKK4 (pT261) Antibody - Additional Information

Gene ID 6416

**Other Names** 

JNKK1; MEK4; MKK4; PRKMK4; SEK1; SERK1; SKK1; Dual specificity mitogen-activated protein kinase kinase 4; MAP kinase kinase 4; MAPKK 4; JNK-activating kinase 1; MAPK/ERK kinase 4; MEK 4; SAPK/ERK kinase 1; SEK1; Stress-activated protein kinase kinase 1; SAPK kinase 1; SAPKK-1; SAPKK1; c-Jun N-terminal kinase kinase 1; JNKK

**Target/Specificity** Recognizes endogenous levels of MKK4 (pT261) protein.

Dilution WB~~WB (1/500 - 1/1000), IH (1/100 - 1/200), IF/IC (1/100 - 1/500) IF/IC~~N/A IHC~~1:100~500

Format Liquid in 0.42% Potassium phosphate, 0.87% Sodium chloride, pH 7.3, 30% glycerol, and 0.09% (W/V) sodium azide.

Storage Store at -20 °C.Stable for 12 months from date of receipt

### Anti-MKK4 (pT261) Antibody - Protein Information

Name MAP2K4

Synonyms JNKK1, MEK4, MKK4, PRKMK4, SEK1, SERK1,

#### Function

Dual specificity protein kinase which acts as an essential component of the MAP kinase signal transduction pathway. Essential component of the stress-activated protein kinase/c-Jun N-terminal



kinase (SAP/JNK) signaling pathway. With MAP2K7/MKK7, is the one of the only known kinase to directly activate the stress-activated protein kinase/c-Jun N-terminal kinases MAPK8/JNK1, MAPK9/JNK2 and MAPK10/JNK3. MAP2K4/MKK4 and MAP2K7/MKK7 both activate the JNKs by phosphorylation, but they differ in their preference for the phosphorylation site in the Thr-Pro-Tyr motif. MAP2K4 shows preference for phosphorylation of the Tyr residue and MAP2K7/MKK7 for the Thr residue. The phosphorylation of the Thr residue by MAP2K7/MKK7 seems to be the prerequisite for JNK activation at least in response to pro-inflammatory cytokines, while other stimuli activate both MAP2K4/MKK4 and MAP2K7/MKK7 which synergistically phosphorylate JNKs. MAP2K4 is required for maintaining peripheral lymphoid homeostasis. The MKK/JNK signaling pathway is also involved in mitochondrial death signaling pathway, including the release cytochrome c, leading to apoptosis. Whereas MAP2K7/MKK7 exclusively activates JNKs, MAP2K4/MKK4 additionally activates the p38 MAPKs MAPK11, MAPK12, MAPK13 and MAPK14.

Cellular Location Cytoplasm. Nucleus.

**Tissue Location** 

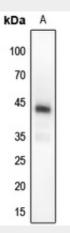
Abundant expression is seen in the skeletal muscle. It is also widely expressed in other tissues

# Anti-MKK4 (pT261) Antibody - Protocols

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

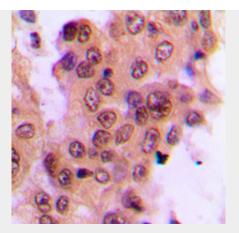
- Western Blot
- <u>Blocking Peptides</u>
- Dot Blot
- <u>Immunohistochemistry</u>
- <u>Immunofluorescence</u>
- <u>Immunoprecipitation</u>
- Flow Cytomety
- <u>Cell Culture</u>

### Anti-MKK4 (pT261) Antibody - Images

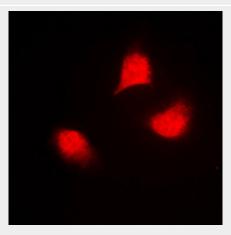


Western blot analysis of MKK4 (pT261) expression in zebrafish (A) whole cell lysates.





Immunohistochemical analysis of MKK4 (pT261) staining in human breast cancer formalin fixed paraffin embedded tissue section. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0). The section was then incubated with the antibody at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.



Immunofluorescent analysis of MKK4 (pT261) staining in NIH3T3 cells. Formalin-fixed cells were permeabilized with 0.1% Triton X-100 in TBS for 5-10 minutes and blocked with 3% BSA-PBS for 30 minutes at room temperature. Cells were probed with the primary antibody in 3% BSA-PBS and incubated overnight at 4 °C in a humidified chamber. Cells were washed with PBST and incubated with a DyLight 594-conjugated secondary antibody (red) in PBS at room temperature in the dark.

# Anti-MKK4 (pT261) Antibody - Background

KLH-conjugated synthetic peptide encompassing a sequence within the center region of human MKK4. The exact sequence is proprietary.