

Product Information

Anti-phospho-JNK 1/2 (SAPK) (pThr¹⁸³/pTyr¹⁸⁵)

Developed in Rabbit, Affinity Isolated Antibody

Product Number **J 4644**

Product Description

Anti-phospho-JNK1/2 (SAPK) (pThr¹⁸³/pTyr¹⁸⁵) was developed in rabbit using a synthetic phosphopeptide derived from a region of human JNK1&2 that contains threonine 183 and tyrosine 185 as immunogen. The serum is affinity purified using epitope-specific affinity chromatography. The antibody is preadsorbed to remove any reactivity towards non-phosphorylated JNK enzymes.

Anti-phospho-JNK1/2 (SAPK) (pThr¹⁸³/pTyr¹⁸⁵) specifically recognizes the endogenous, active forms of JNK1&2 phosphorylated at threonine 183 and tyrosine 185. It detects human, rat, mouse and chick JNK1&2. It has been used in immunoblotting and immunostaining applications.

The stress-activated protein kinase (SAPK) and mitogen-activated protein kinase (MAPK) pathways are signal transduction cascades with distinct functions in mammals. Both are structurally related in their phosphorylation activity but differ in the events leading to phosphorylation. MAPKs are rapidly phosphorylated and activated in response to various extracellular stimuli. ¹

In the SAPK pathway, SAPKs are the dominant c-jun amino-terminal protein kinases (e.g. JNK1) activated by dual specificity kinase JNKK in response to a variety of cellular stresses, including malformed proteins in the endoplasmic reticulum, treatment with interleukin-beta and tumor necrosis factor-alpha. (The name JUN comes from the Japanese 'ju-nana,' meaning the number 17.). JNKK1 is a specific activator of JNK1, JNK2, and p38, but not of ERK2. ^{2,3,4} For full enzymatic activity, JNK1 & 2 require dual phosphorylation at threonine 183 and tyrosine 185.

The JNK1 signaling pathway plays a key role in T cell receptor-initiated helper T-cell proliferation, apoptosis, and differentiation.

Reagents

Anti-phospho-JNK1/2 (SAPK) (pThr¹⁸³/pTyr¹⁸⁵) is supplied in 100 µl Dulbecco's phosphate buffered saline (without Mg²⁺ and Ca²⁺), pH 7.3, with 50% glycerol, 1% bovine serum albumin (BSA) and 0.05% sodium azide as a preservative.

The amount of antibody provided is sufficient for 10 immunoblots.

Precautions and Disclaimer

Due to the sodium azide content, a material safety data sheet (MSDS) for this product has been sent to the attention of the safety officer of your institution. Consult the MSDS for information regarding hazards and safe handling practices.

Storage/Stability

Store at -20 °C. Due to the presence of 50% glycerol the antibody will remain in solution. For extended storage, centrifuge the vial briefly before opening and prepare working aliquots. The antibody is stable for at least six months when stored appropriately. Working dilutions should be discarded if not used within 12 hours.

Product Profile

The recommended working dilution is determined by immunoblotting using human 293 cells treated with UV irradiation. Data demonstrates that only phosphopeptide corresponding to the region containing threonine 183 and tyrosine 185 blocks the antibody signal, which confirms the specificity of Anti-phospho-JNK1/2 (SAPK) (pThr¹⁸³/pTyr¹⁸⁵) for these phosphos phosphorylated residues.

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Note: In order to obtain best results in different techniques and preparations we recommend determining optimal working concentration by titration test.

References

1. Cobb, M.H., MAP kinase pathways. Prog. Biophys. Mol. Biol., **71**, 479-500 (1999).
2. White, R.A., et al., The gene encoding protein kinase SEK1 maps to mouse chromosome 11 and human chromosome 17. Genomics , **34**, 430-432 (1996).
3. Lin, A., et al., Identification of a dual specificity kinase that activates the Jun kinases and p38-Mpk2. Science, **268**, 286-290 (1995).
4. Urano, F., et al., Coupling of stress in the ER to activation of JNK protein kinases by transmembrane protein kinase IRE1. Science, **287**: 664-666 (2000).

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