ProductInformation

Anti-phospho-MAP Kinase Kinase 4 (MKK4, SEK1, JNKK1 (phosphothreonine 223)
Developed in Rabbit,
Affinity Isolated Antibody

Product Number **M7433**

Product Description

Anti-phospho-MAP Kinase Kinase 4 (MKK4, SEK1, JNKK1 (phosphothreonine 223) is developed in rabbit using a synthetic phospho-Thr223 peptide corresponding to residues around Thr223 of human SEK1, conjugated to KLH, as immunogen. The antibody is affinity-purified using protein A and peptide affinity chromatography.

Anti-phospho-MAP Kinase Kinase 4 (MKK4, SEK1, JNKK1 (phosphothreonine 223) detects SEK1/MKK4 protein when activated by phosphorylation at Thr223. This antibody reacts with human, rat, and mouse. Anti-phospho-MAP Kinase Kinase 4 does not appreciably cross react with the corresponding phosphorylated MEK1 and MEK2, or MKK3. This antibody may be used for immunoblotting.

SAPK/ERK kinase (SEK1), also called MKK4 and Jun kinase kinase (JNKK), is a protein kinase that activates the MAP kinase homologue SAPK (stress activated protein kinase) and functions in a stress activated protein kinase cascade.[1-3] SEK1 is activated by different forms of cellular stress and inflammatory cytokines. Activation of SEK1 occurs through phosphorylation of serine and threonine residues at position 219 and 223 respectively by MEKK. Other activators of SEK are as yet unclear. Like MEK, SEK is a dual specificity protein kinase that phosphorylates and activates SAP kinase on both threonine and tyrosine residues at the activation site T*PY*.[4] To date, p54/48 SAP kinases are the only known substrates for SEK. Phosphorylation of p54/48 SAP kinase by SEK dramatically stimulates the ability of SAP kinase to phosphorylate protein substrates such as c-Jun.

Reagents

Anti-phospho-MAP Kinase Kinase 4 (MKK4, SEK1, JNKK1 (phosphothreonine 223) is supplied as an affinity-isolated antibody in 10 mM sodium HEPES, pH 7.5, containing 150 mM sodium chloride, 100 µg/ml bovine serum albumin and 50% glycerol.

Storage/Stability

Store at 0° to –20°C. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilution samples should be discarded if not used within 12 hours.

Product Profile

Recommended working dilution is 1:2,000 for immunoblotting (chemiluminescent) using sodium chloride and vanadate-treated 293 cells. For immunoblotting, incubate membrane with diluted antibody in 5% bovine serum albumin (BSA), 1X Tris buffered saline and 0.1% Tween-20 at 2-8°C with gentle shaking, overnight.

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

References

1. Davis, R.J., et. al., TIBS, 19, 470-473 (1994).
2. Sanchez, I., et. al., Nature, **372**, 794-798 (1994).
3. Yan, M., et. al., Nature, **372**, (1994).
4. Kyriakis, J.M., et. al., Nature, **369**, 156-160 (1994).

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