Revision 1

Phospho-ASK1 (Ser967) Antibody

#3764 Store at -20C

Cell Signaling TECHNOLOGY®

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W	H	Transfected Only	155	Rabbit	#Q99683	4217

Product Usage Information

Application	Dilution
Western Blotting	1:1000

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at –20°C. Do not aliquot the antibody.

Specificity/Sensitivity

Phospho-ASK1 (Ser967) Antibody detects transfected ASK1 only when phosphorylated at serine 967.

Species predicted to react based on 100% sequence homology

Mouse, Rat

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic phosphopeptide corresponding to residues around serine 967 of human ASK1. Antibodies are purified by protein A and peptide affinity chromatography.

Background

Apoptosis signal-regulating kinase 1 (ASK1), a MAP kinase kinase kinase, plays essential roles in stress-induced apoptosis (1,2). ASK1 is activated in response to a variety of stress-related stimuli through distinct mechanisms and activates MKK4 and MKK3, which in turn activate JNK and p38 (3). Overexpression of ASK1 activates JNK and p38 and induces apoptosis in several cell types through signals involving the mitochondrial cell death pathway. Embryonic fibroblasts or primary neurons derived from ASK1-/- mice are resistant to stress-induced JNK and p38 activation as well as cell death (4,5). Phosphorylation at Ser967 is essential for ASK1 association with 14-3-3 proteins and suppression of cell death (6). Oxidative stress induces dephosphorylation of Ser967 and phosphorylation of Thr845 in the activation loop of ASK1, both of which are correlated with ASK1 activity and ASK1-dependent apoptosis (7,8). Akt phosphorylates ASK1 at Ser83, which attenuates ASK1 activity and promotes cell survival (9).
Phosphorylation at Ser967 of ASK1 leads to association of 14-3-3 and suppression of ASK1 kinase activity (6).

Background References

1. Ichijo, H. et al. (1997) *Science* 275, 90-94.
2. Wang, X.S. et al. (1996) *J. Biol. Chem.* 271, 31607-31611.
3. Matsuzawa, A. and Ichijo, H. (2001) *J. Biochem. (Tokyo)* 130, 1-8.
4. Tobiume, K. et al. (2001) *EMBO Rep.* 2, 222-228.
5. Nishitoh, H. et al. (2002) *Genes Dev.* 16, 1345-1355.
6. Zhang, L. et al. (1999) *Proc. Natl. Acad. Sci. USA* 96, 8511-8515.
7. Tobiume, K. et al. (2002) *J. Cell. Physiol.* 191, 95-104.
8. Goldman, E.H. et al. (2004) *J. Biol. Chem.* in press, .
9. Kim, A.H. et al. (2001) *Mol. Cell. Biol.* 21, 893-901.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting

Cross-Reactivity Key

H: Human

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