Revision 1

Store at -20C

#2993

Phospho-c-Jun (Thr93) Antibody

Cell Signaling TECHNOLOGY®

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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W	H M R	Endogenous	48	Rabbit	#P05412	3725

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-c-Jun (Thr93) Antibody detects endogenous levels of c-Jun only when phosphorylated at threonine 93.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic phosphopeptide corresponding to residues around Thr93 of human c-Jun. Antibodies are purified by protein A and peptide affinity chromatography.

Background

c-Jun is a member of the Jun family containing c-Jun, JunB, and JunD, and is a component of the transcription factor activator protein-1 (AP-1). AP-1 is composed of dimers of Fos, Jun, and ATF family members and binds to and activates transcription at TRE/AP-1 elements (reviewed in 1). Extracellular signals, including growth factors, chemokines, and stress, activate AP-1-dependent transcription. The transcriptional activity of c-Jun is regulated by phosphorylation at Ser63 and Ser73 through SAPK/JNK (reviewed in 2). Knockout studies in mice have shown that c-Jun is essential for embryogenesis (3), and subsequent studies have demonstrated roles for c-Jun in various tissues and developmental processes, including axon regeneration (4), liver regeneration (5), and T cell development (6). AP-1 regulated genes exert diverse biological functions, including cell proliferation, differentiation, and apoptosis, as well as transformation, invasion and metastasis, depending on cell type and context (7-9). Other target genes regulate survival, as well as hypoxia and angiogenesis (8,10). Research studies have implicated c-Jun as a promising therapeutic target for cancer, vascular remodeling, acute inflammation, and rheumatoid arthritis (11,12).

The multisite phosphorylation of the transcription factor c-Jun has been reinvestigated recently (14). The phosphorylation of Thr91 and Thr93 induces a change in the conformation of c-Jun that enhances accessibility of the carboxy-terminal sites to a protein phosphatase(s) (15). The identity of the protein kinase that phosphorylates Thr91 and Thr93 *in vivo* is unknown.

Background References

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3. Hilberg, F. et al. (1993) *Nature* 365, 179-81.
4. Raivich, G. et al. (2004) *Neuron* 43, 57-67.
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6. Riera-Sans, L. and Behrens, A. (2007) *J Immunol* 178, 5690-700.
7. Leppä, S. and Bohmann, D. (1999) *Oncogene* 18, 6158-62.
8. Shaulian, E. and Karin, M. (2002) *Nat Cell Biol* 4, E131-6.
9. Weiss, C. and Bohmann, D. (2004) *Cell Cycle* 3, 111-3.
10. Karamouzis, M.V. et al. (2007) *Mol Cancer Res* 5, 109-20.
11. Kim, S. and Iwao, H. (2003) *J Pharmacol Sci* 91, 177-81.
12. Dass, C.R. and Choong, P.F. (2008) *Pharmazie* 63, 411-4.
13. Morton, S. et al. (2003) *EMBO J* 22, 3876-86.
14. Papavassiliou, A.G. et al. (1995) *EMBO J* 14, 2014-9.

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 **M:** Mouse **R:** Rat

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