



3050 Spruce Street
Saint Louis, Missouri 63103 USA
Telephone 800-325-5832 • (314) 771-5765
Fax (314) 286-7828
email: techserv@sial.com
sigma-aldrich.com

Product Information

Monoclonal Anti-phospho-c-Jun (pThr^{91,93})

Clone C-J 4C4/1

produced in mouse, purified immunoglobulin

Catalog Number **J4399**

Product Description

Monoclonal Anti-phospho-c-Jun (pThr^{91,93}) (mouse IgG1 isotype) is derived from the hybridoma C-J 4C4/1 produced by the fusion of mouse myeloma cells (Sp2/0 Ag.14 cells) and splenocytes from BALB/c mice immunized with c-Jun phosphorylated at Thr⁹¹ and Thr⁹³. The isotype is determined using a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents, Catalog Number ISO2.

Monoclonal Anti-phospho-c-Jun (pThr^{91,93}) recognizes human, rat, and mouse c-Jun phosphorylated at Thr⁹¹ and at both Thr⁹¹ and Thr⁹³. The antibody may be used in ELISA and immunoblotting (~40 kDa).¹

The c-Jun gene family encodes for proteins that can homodimerize or heterodimerize with proteins of the Fos family to form the AP-1 transcription factor. AP-1 recognizes a specific DNA sequence and has a transcriptional activity independent of its phosphorylation status. c-Jun and AP-1 activities are modified in response to many extracellular stimuli through phosphorylation of c-Jun by the JNK group of mitogen-activated protein (MAP) kinases.^{2,3} This phosphorylation of c-Jun occurs at Ser⁶³ and Ser⁷³ as well as Thr⁹¹ and Thr⁹³, which are located at the transactivation domain of c-Jun. As a result of this phosphorylation, there is an increase in transcription of target genes, among them also c-Jun itself. Knock-in mice that lack the ability to phosphorylate the N-terminal of the protein develop normally but have specific defects in stress-induced neuronal apoptosis and oncogenic transformation. In neurons, phosphorylated c-Jun is ubiquitinated by the E3 ligase SCF^{Fbw7} that facilitates its degradation. Depletion of SCF^{Fbw7} resulted in accumulation of phosphorylated c-Jun, stimulation of AP1 activity and neuronal apoptosis.^{1,4}

Reagent

Supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide as a preservative.

Antibody concentration: ~2 mg/mL

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

For continuous use, store at 2-8 °C for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing, or storage in "frost-free" freezers, is not recommended. 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

Immunoblotting: a working concentration of 5 µg/mL is recommended using a total cell extract of NIH 3T3 cells treated with anisomycin. For optimal detection, a sensitive film is needed with a long exposure.

Note: In order to obtain the best results using various techniques and preparations, we recommend determining optimal working dilutions by titration.

References

1. Nateri, A.S., et al., *Science*, **303**, 1374-1378 (2004).
2. Eferl, R., and Wagner, E.F., *Nature Rev. Cancer*, **3**, 859-868 (2003).
3. Davis, R.J., *Cell*, **103**, 239-252 (2000).
4. Nateri, A.S., et al., *Nature*, **437**, 281-285 (2005).

EK,KAA,PHC 12/06-1

Sigma brand products are sold through Sigma-Aldrich, Inc.

Sigma-Aldrich, Inc. warrants that its products conform to the information contained in this and other Sigma-Aldrich publications. Purchaser must determine the suitability of the product(s) for their particular use. Additional terms and conditions may apply. Please see reverse side of the invoice or packing slip.