

# JIP-3 (D-3): sc-48392

## BACKGROUND

The JNK-interacting proteins (JIPs) are a family of scaffold proteins that mediate JNK signaling by organizing specific components of the MAPK cascade together to form a functional JNK signaling molecule. JIP-3 (JNK-interacting protein 3), also known as JSAP1 or MAPK8IP3 (mitogen-activated protein kinase 8-interacting protein 3), is a 1,336 amino acid protein that localizes to the cytoplasm and belongs to the JIP family. Expressed in a variety of tissues, including brain and heart, JIP-3 forms homo- or heterooligomeric complexes that can interact with several components of the JNK signaling pathway, thereby functioning as a regulator of kinesin-dependent axonal transport that may also play a role in scaffold formation within neuronal cells. Human JIP-3, which may be phosphorylated upon DNA damage, shares 69% similarity with its mouse counterpart, suggesting a conserved role between species. Multiple isoforms of JIP-3 exist due to alternative splicing events.

## REFERENCES

1. Ito, M., et al. 1999. JSAP1, a novel jun N-terminal protein kinase (JNK)-binding protein that functions as a Scaffold factor in the JNK signaling pathway. *Mol. Cell. Biol.* 19: 7539-7548.
2. Bowman, A.B., et al. 2000. Kinesin-dependent axonal transport is mediated by the Sunday driver (SYD) protein. *Cell* 103: 583-594.
3. Kelkar, N., et al. 2000. Interaction of a mitogen-activated protein kinase signaling module with the neuronal protein JIP3. *Mol. Cell. Biol.* 20: 1030-1043.
4. Akechi, M., et al. 2001. Expression of JNK cascade scaffold protein JSAP1 in the mouse nervous system. *Neurosci. Res.* 39: 391-400.
5. Matsuura, H., et al. 2002. Phosphorylation-dependent scaffolding role of JSAP1/JIP3 in the ASK1-JNK signaling pathway. A new mode of regulation of the MAP kinase cascade. *J. Biol. Chem.* 277: 40703-40709.
6. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 605431. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
7. Morita, N., et al. 2004. N-terminal kinase, and c-Src are activated in human aortic smooth muscle cells by pressure stress. *Mol. Cell. Biochem.* 262: 71-78.

## CHROMOSOMAL LOCATION

Genetic locus: MAPK8IP3 (human) mapping to 16p13.3; Mapk8ip3 (mouse) mapping to 17 A3.3.

## SOURCE

JIP-3 (D-3) is a mouse monoclonal antibody raised against amino acids 211-350 of JIP-3 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

JIP-3 (D-3) is recommended for detection of JIP-3 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for JIP-3 siRNA (h): sc-37123, JIP-3 siRNA (m): sc-37124, JIP-3 shRNA Plasmid (h): sc-37123-SH, JIP-3 shRNA Plasmid (m): sc-37124-SH, JIP-3 shRNA (h) Lentiviral Particles: sc-37123-V and JIP-3 shRNA (m) Lentiviral Particles: sc-37124-V.

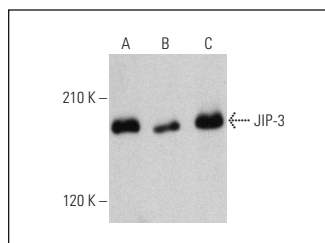
Molecular Weight of JIP-3: 150 kDa.

Positive Controls: rat brain extract: sc-2392, IMR-32 cell lysate: sc-2409 or mouse brain extract: sc-2253.

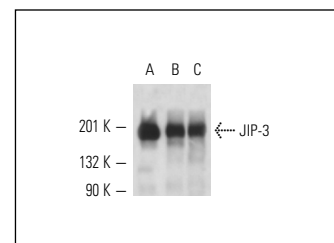
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



JIP-3 (D-3): sc-48392. Western blot analysis of JIP-3 expression in BC<sub>3</sub>H1 (A), EOC 20 (B) and PC-12 (C) whole cell lysates.



JIP-3 (D-3): sc-48392. Western blot analysis of JIP-3 expression in IMR-32 whole cell lysate (A) and mouse brain (B) and rat brain (C) tissue extracts.

## STORAGE

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.