

JIP-4 (A-10): sc-374542

BACKGROUND

JIP-4 (c-Jun-amino-terminal kinase-interacting protein 4, Mitogen-activated protein kinase 8-interacting protein 4, Sunday driver 1) is a 1,321 amino acid protein encoded by the human gene SPAG9. It contains a large N-terminal extracellular domain, a short transmembrane helical domain, and a cytoplasmic domain. There are six N-glycosylation sites, several phosphorylation sites for cAMP/cGMP-dependent protein kinase, protein kinase C and casein kinase II, and ten putative myristoylation sites. There is also a leucine zipper motif, with six leucine repeats, that may aid in dimerization since there is no upstream basic domain characteristic of DNA binding proteins. The JNK-interacting protein (JIP) group of scaffold proteins selectively mediates JNK signaling by aggregating specific components of the MAPK cascade to form a functional JNK signaling module. JIP-4 is a cytoplasmic, perinuclear protein that has eight known isoforms whose expression varies by tissue and disease state.

REFERENCES

- Shankar, S., et al. 1998. Cloning of a novel human testis mRNA specifically expressed in testicular haploid germ cells, having unique palindromic sequences and encoding a leucine zipper dimerization motif. *Biochem. Biophys. Res. Commun.* 243: 561-565.
- Bowman, A.B., et al. 2001. Kinesin-dependent axonal transport is mediated by the Sunday driver (SYD) protein. *Cell* 103: 583-594.
- Lee, C.M., et al. 2002. JLP: A scaffolding protein that tethers JNK/p38MAPK signaling modules and transcription factors. *Proc. Natl. Acad. Sci. USA* 99: 14189-14194.
- Yasuoka, H., et al. 2003. A novel protein highly expressed in testis is over-expressed in systemic sclerosis fibroblasts and targeted by autoantibodies. *J. Immunol.* 171: 6883-6890.
- Jagadish, N., et al. 2005. Sperm associated antigen 9 (SPAG9): a new member of c-Jun NH₂-terminal kinase (JNK) interacting protein exclusively expressed in testis. *Keio J. Med.* 54: 66-71.
- Jagadish, N., et al. 2005. Characterization of a novel human sperm-associated antigen 9 (SPAG9) having structural homology with c-Jun N-terminal kinase-interacting protein. *Biochem. J.* 389: 73-82.

CHROMOSOMAL LOCATION

Genetic locus: SPAG9 (human) mapping to 17q21.33.

SOURCE

JIP-4 (A-10) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 225-257 within an internal region of JIP-4 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

JIP-4 (A-10) is recommended for detection of JIP-4 of 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).

JIP-4 (A-10) is also recommended for detection of JIP-4 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for JIP-4 siRNA (h): sc-62513, JIP-4 shRNA Plasmid (h): sc-62513-SH and JIP-4 shRNA (h) Lentiviral Particles: sc-62513-V.

Molecular Weight (predicted) of JIP-4: 147 kDa.

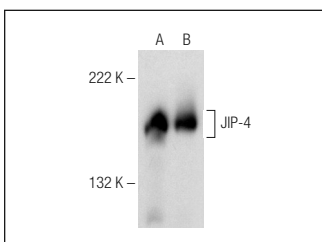
Molecular Weight (observed) of JIP-4: 177 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200 or AML-193 whole cell lysate.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (dilution range: 1:2000-1:5000), 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 goat anti-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



JIP-4 (A-10): sc-374542. Western blot analysis of JIP-4 expression in HeLa (A) and AML-193 (B) whole cell lysates.

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.