SANTA CRUZ BIOTECHNOLOGY, INC.

JIP-4 (H-8): sc-271492

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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

1. 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.
2. Bowman, A.B., et al. 2000. Kinesin-dependent axonal transport is mediated by the Sunday driver (SYD) protein. Cell 103: 583-594.
3. 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.
4. 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.

CHROMOSOMAL LOCATION

Genetic locus: SPAG9 (human) mapping to 17q21.33; Spag9 (mouse) mapping to 11 D.

SOURCE

JIP-4 (H-8) is a mouse monoclonal antibody raised against amino acids 164-328 mapping near the N-terminus of JIP-4 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

JIP-4 (H-8) is available conjugated to agarose (sc-271492 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271492 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271492 PE), fluorescein (sc-271492 FITC), Alexa Fluor® 488 (sc-271492 AF488), Alexa Fluor® 546 (sc-271492 AF546), Alexa Fluor® 594 (sc-271492 AF594) or Alexa Fluor® 647 (sc-271492 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271492 AF680) or Alexa Fluor® 790 (sc-271492 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

JIP-4 (H-8) is recommended for detection of JIP-4 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

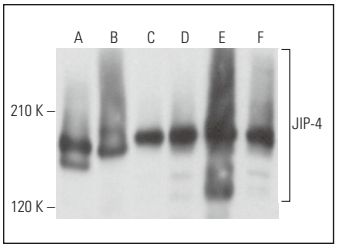
Suitable for use as control antibody for JIP-4 siRNA (h): sc-62513, JIP-4 siRNA (m): sc-62514, JIP-4 shRNA Plasmid (h): sc-62513-SH, JIP-4 shRNA Plasmid (m): sc-62514-SH, JIP-4 shRNA (h) Lentiviral Particles: sc-62513-V and JIP-4 shRNA (m) Lentiviral Particles: sc-62514-V.

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

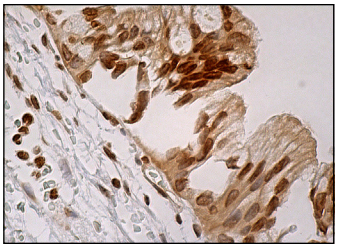
Molecular Weight (observed) of JIP-4: 177 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, RAW 264.7 whole cell lysate: sc-2211 or F9 cell lysate: sc-2245.

DATA



JIP-4 (H-8): sc-271492. Western blot analysis of JIP-4 expression in HeLa (**A**), PC-3 (**B**), F9 (**C**), RAW 264.7 (**D**), NIH/3T3 (**E**) and Neuro-2A (**F**) whole cell lysates.



JIP-4 (H-8): sc-271492. Immunoperoxidase staining of formalin fixed, paraffin-embedded human gall bladder tissue showing nuclear and cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Jilg, C.A., et al. 2014. PRK1/PKN1 controls migration and metastasis of androgen-independent prostate cancer cells. Oncotarget 5: 12646-12664.
2. Boecker, C.A., et al. 2021. Increased LRRK2 kinase activity alters neuronal autophagy by disrupting the axonal transport of autophagosomes. Curr. Biol. 31: 2140-2154.e6.
3. Lu, Z., et al. 2021. PP2A protects podocytes against adriamycin-induced injury and epithelial-to-mesenchymal transition via suppressing JIP4/p38-MAPK pathway. Cytotechnology 73: 697-713.

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.