SANTA CRUZ BIOTECHNOLOGY, INC.

JIP-1 (50): sc-135957

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

c-Jun NH_2-terminal kinases (JNKs) are distant members of the MAP kinase family. JNK1 is activated by dual phosphorylation at a Thr-Pro-Tyr motif in response to ultraviolet (UV) light, and it functions to phosphorylate c-Jun at amino-terminal serine regulatory sites, Ser 63 and Ser 73, resulting in transcriptional activation. Two additional JNK family members have been identified as JNK2 and JNK3. JIP-1 (for JNK interacting protein-1) has been identified as a cytoplasmic inhibitor of JNK that retains JNK in the cytoplasm, thereby inhibiting JNK-regulated gene expression. Evidence suggests that JNK1 and JNK2 bind to JIP-1 with greater affinity than to ATF-2 and c-Jun, which are targets of the JNK signaling pathway. JIP-1 contains an amino-terminal JNK binding domain and a carboxy-terminal SH3 domain. ATF-2 and c-Jun also contain the JNK binding domain and are thought to compete with JIP-1 for JNK binding. Multiple splice variants of JIP-1, including JIP-1b, JIP-1c (also designated islet-brain 1 or IB-1), JIP-2a, JIP-2b and JIP-3, have been identified in brain.

REFERENCES

1. Pulverer, B.J., et al. 1991. Phosphorylation of c-Jun mediated by MAP kinases. Nature 353: 670-674.
2. Smeal, T., et al. 1992. Oncoprotein-mediated signalling cascade stimulates c-Jun activity by phosphorylation of Serines 63 and 73. Mol. Cell. Biol. 12: 3507-3513.
3. Derijard, B., et al. 1994. JNK1: a protein kinase stimulated by UV light and Ha-Ras that binds and phosphorylates the c-Jun activation domain. Cell 76: 1025-1037.
4. Kyriakis, J.M., et al. 1994. The stress-activated protein kinase subfamily of c-Jun kinases. Nature 369: 156-160.
5. Davis, R.J. 1995. Transcriptional regulation by MAP kinases. Mol. Reprod. Dev. 42: 459-467.
6. Dickens, M., et al. 1997. A cytoplasmic inhibitor of the JNK signal transduction pathway. Science 277: 693-696.
7. Kim, I.J., et al. 1999. Molecular cloning of multiple splicing variants of JIP-1 preferentially expressed in brain. J. Neurochem. 72: 1335-1343.
8. Yasuda, J., et al. 1999. The JIP group of mitogen-activated protein kinase scaffold proteins. Mol. Cell. Biol. 19: 7245-7254.
9. Whitmarsh, A.J., et al. 2001. Requirement of the JIP-1 scaffold protein for stress-induced JNK activation. Genes Dev. 15: 2421-2432.

CHROMOSOMAL LOCATION

Genetic locus: Mapk8ip1 (mouse) mapping to 2 E1.

SOURCE

JIP-1 (50) is a mouse monoclonal antibody raised against amino acids 180-384 of JIP-1 of mouse origin.

RESEARCH USE

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

PRODUCT

Each vial contains 50 µg IgG_1 in 0.5 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

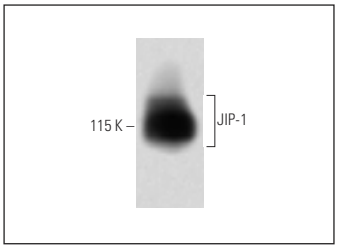
JIP-1 (50) is recommended for detection of JIP-1 of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for JIP-1 siRNA (m): sc-35723, JIP-1 shRNA Plasmid (m): sc-35723-SH and JIP-1 shRNA (m) Lentiviral Particles: sc-35723-V.

Molecular Weight of JIP-1: 115 kDa.

Positive Controls: mouse cerebellum extract: sc-2403, PC-12 cell lysate: sc-2250 or rat cerebellum extract: sc-2398.

DATA



JIP-1 (50): sc-135957. Western blot analysis of JIP-1 expression in mouse cerebellum tissue extract.

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

CONJUGATES

See **JIP-1 (B-7): sc-25267** for JIP-1 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.