SANTA CRUZ BIOTECHNOLOGY, INC.

JIP-1 (M-300): sc-15353

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.

CHROMOSOMAL LOCATION

Genetic locus: MAPK8IP1 (human) mapping to 11p11.2; Mapk8ip1 (mouse) mapping to 2 E1.

SOURCE

JIP-1 (M-300) is a rabbit polyclonal antibody raised against amino acids 1-300 mapping near the N-terminus of JIP-1 of mouse origin.

PRODUCT

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

APPLICATIONS

JIP-1 (M-300) is recommended for detection of JIP-1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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).

JIP-1 (M-300) is also recommended for detection of JIP-1 in additional species, including bovine and porcine.

Suitable for use as control antibody for JIP-1 siRNA (h): sc-35722, JIP-1 siRNA (m): sc-35723, JIP-1 shRNA Plasmid (h): sc-35722-SH, JIP-1 shRNA Plasmid (m): sc-35723-SH, JIP-1 shRNA (h) Lentiviral Particles: sc-35722-V and JIP-1 shRNA (m) Lentiviral Particles: sc-35723-V.

Molecular Weight of JIP-1: 115 kDa.

Positive Controls: mouse brain extract: sc-2253, PC-12 cell lysate: sc-2250 or rat cerebellum extract: sc-2398.

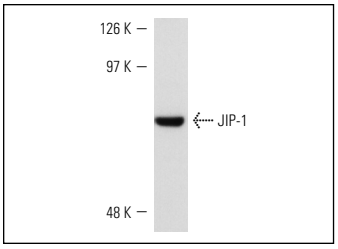
STORAGE

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

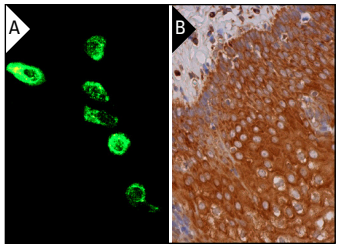
RESEARCH USE

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

DATA



JIP-1 (M-300): sc-15353. Western blot analysis of JIP-1 expression in rat cerebellum extract.



JIP-1 (M-300): sc-15353. Immunofluorescence staining of methanol-fixed PC-12 cells showing perinuclear localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human esophagus tissue showing cytoplasmic staining of squamous epithelial cells (**B**).

SELECT PRODUCT CITATIONS

1. Eminel, S., et al. 2004. JNK2 translocates to the mitochondria and mediates cytochrome c release in PC-12 cells in response to 6-hydroxydopamine. J. Biol. Chem. 279: 55385-55392.
2. Kukekov, N.V., et al. 2006. Direct interaction of the molecular scaffolds POSH and JIP is required for apoptotic activation of JNKs. J. Biol. Chem. 281: 15517-15524.
3. Santos, C., et al. 2006. Vaccinia virus B1R kinase interacts with JIP-1 and modulates c-Jun-dependent signaling. J. Virol. 80: 7667-7675.
4. Guan, Q.H., et al. 2006. Neuroprotection against ischemic brain injury by a small peptide inhibitor of c-Jun N-terminal kinase (JNK) via nuclear and non-nuclear pathways. Neuroscience 139: 609-627.
5. Zhang, Q.X., et al. 2007. Crosstalk between PSD-95 and JIP-1-mediated signaling modules: the mechanism of MLK3 activation in cerebral ischemia. Biochemistry 46: 4006-4016.
6. Blanco, S., et al. 2008. Modulation of interleukin-1 transcriptional response by the interaction between VRK2 and the JIP1 scaffold protein. PLoS ONE 3: e1660.
7. Leaner, V.D., et al. 2009. Inhibition of AP-1 transcriptional activity blocks the migration, invasion, and experimental metastasis of murine osteosarcoma. Am. J. Pathol. 174: 265-275.
8. Pan, J., et al. 2010. Small peptide inhibitor of JNKs protects against MPTP-induced nigral dopaminergic injury via inhibiting the JNK-signaling pathway. Lab. Invest. 90: 156-167.