SANTA CRUZ BIOTECHNOLOGY, INC.

# JIP-1 (B-7): sc-25267

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 0identified 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 (mouse) mapping to 2 E1.

## SOURCE

JIP-1 (B-7) is a mouse monoclonal antibody raised against amino acids 1-300 of JIP-1b of mouse 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-1 (B-7) is available conjugated to agarose (sc-25267 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-25267 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-25267 PE), fluorescein (sc-25267 FITC), Alexa Fluor® 488 (sc-25267 AF488), Alexa Fluor® 546 (sc-25267 AF546), Alexa Fluor® 594 (sc-25267 AF594) or Alexa Fluor® 647 (sc-25267 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-25267 AF680) or Alexa Fluor® 790 (sc-25267 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

## APPLICATIONS

JIP-1 (B-7) is recommended for detection of JIP-1 of mouse and rat origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:500), 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-1 siRNA (m): sc-35723, JIP-1 shRNA Plasmid (m): sc-35723-SH and JIP-1 shRNA (m) Lentiviral Particles: sc-35723-V.

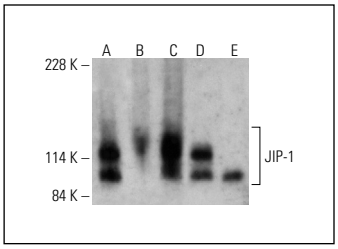
Molecular Weight of JIP-1: 115 kDa.

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

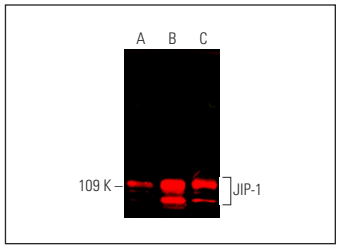
## STORAGE

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

## DATA




JIP-1 (B-7) HRP: sc-25267 HRP. Direct western blot analysis of JIP-1 expression in mouse brain (**A**), rat cerebellum (**B**), mouse cerebellum (**C**) and rat brain (**D**) tissue extracts and C6 whole cell lysate (**E**).




JIP-1 (B-7): sc-25267. Near-infrared western blot analysis of JIP-1 expression in PC-12 whole cell lysate (**A**) and mouse brain (**B**) and rat cerebellum (**C**) tissue extracts. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 790: sc-516181.

## SELECT PRODUCT CITATIONS


1. Santos, C.R., et al. 2006. Vaccinia virus B1R kinase interacts with JIP-1 and modulates c-Jun-dependent signaling. J. Virol. 80: 7667-7675.
2. Yang, J.Y., et al. 2007. Splice variant-specific stabilization of JNKs by IB1/JIP-1. Cell. Signal. 19: 2201-2207.
3. Shimamoto, S., et al. 2008. Interactions of S100A2 and S100A6 with the tetratricopeptide repeat proteins, Hsp90/Hsp70-organizing protein and kinesin light chain. J. Biol. Chem. 283: 28246-28258.
4. Muresan, V., et al. 2009. The cleavage products of amyloid-beta precursor protein are sorted to distinct carrier vesicles that are independently transported within neurites. J. Neurosci. 29: 3565-3578.
5. Barnat, M., et al. 2010. Distinct roles of c-Jun N-terminal kinase isoforms in neurite initiation and elongation during axonal regeneration. J. Neurosci. 30: 7804-7816.
6. van den Berg, M.C., et al. 2013. The small GTPase RALA controls c-Jun N-terminal kinase-mediated FOXO activation by regulation of a JIP-1 scaffold complex. J. Biol. Chem. 288: 21729-21741.
7. Dajas-Bailador, F., et al. 2014. Regulation of axon growth by the JIP1-AKT axis. J. Cell Sci. 127: 230-239.
8. Fey, D., et al. 2015. Signaling pathway models as biomarkers: patient-specific simulations of JNK activity predict the survival of neuroblastoma patients. Sci. Signal. 8: ra130.
9. Blakeslee, W.W., et al. 2017. Class I HDACs control a JIP-1-dependent pathway for kinesin-microtubule binding in cardiomyocytes. J. Mol. Cell. Cardiol. 112: 74-82.


## RESEARCH USE

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