SANTA CRUZ BIOTECHNOLOGY, INC.

MIB1 (B-9): sc-393811

BACKGROUND

The LIN-12/Notch family of transmembrane receptors is believed to play a central role in development by regulating cell fate decisions. MIB1 (E3 ubiquitin-protein ligase MIB1), also known as Mind bomb homolog 1 and DAPK-interacting protein 1, is a 1,006 amino acid E3 ubiquitin ligase that activates the Notch ligand, Delta. MIB1 ubiquinates Delta by binding to its intracellular domain, leading to the endocytosis and eventual degradation of the Delta receptor, which, paradoxically, results in the up-regulation of receptor activity and enhances Notch signaling. MIB1 also interacts with DAPK, a protein that plays an important role in the regulation of apoptosis. Ubiquination of DAPK leads to inhibition of caspase-dependent apoptosis, therefore it is likely that overexpression of MIB1 can lead to tumor growth. Although it seems to be widely expressed at low levels, MIB1 is expressed at highest concentrations in the CNS and ovary. Both DAPK and MIB1 are overexpressed in epileptic brain tissue, suggesting that they probably cooperate as regulators of neuronal death in epilepsy.

CHROMOSOMAL LOCATION

Genetic locus: MIB1 (human) mapping to 18q11.2; Mib1 (mouse) mapping to 18 A1.

SOURCE

MIB1 (B-9) is a mouse monoclonal antibody raised against amino acids 356-566 mapping within an internal region of MIB1 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.

STORAGE

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

APPLICATIONS

MIB1 (B-9) is recommended for detection of MIB1 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

MIB1 (B-9) is also recommended for detection of MIB1 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for MIB1 siRNA (h): sc-75781, MIB1 siRNA (m): sc-149419, MIB1 shRNA Plasmid (h): sc-75781-SH, MIB1 shRNA Plasmid (m): sc-149419-SH, MIB1 shRNA (h) Lentiviral Particles: sc-75781-V and MIB1 shRNA (m) Lentiviral Particles: sc-149419-V.

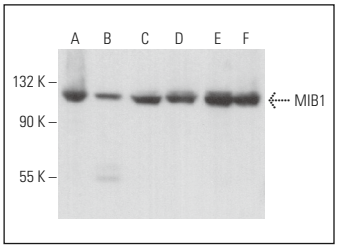
Molecular Weight of MIB1: 110 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, F9 cell lysate: sc-2245 or HeLa whole cell lysate: sc-2200.

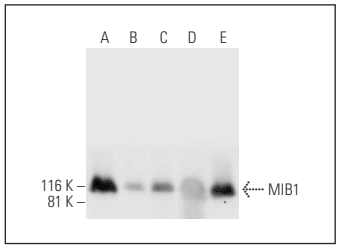
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



MIB1 (B-9): sc-393811. Western blot analysis of MIB1 expression in NIH/3T3 (**A**), EOC 20 (**B**), Neuro-2A (**C**), WI-38 (**D**), JAR (**E**) and C6 (**F**) whole cell lysates.



MIB1 (B-9): sc-393811. Western blot analysis of MIB1 expression in NIH/3T3 (**A**), F9 (**B**), Caco-2 (**C**), HeLa (**D**) and K-562 (**E**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Taura, M., et al. 2015. COMMD1/Murr1 reinforces HIV-1 latent infection through IκB-α stabilization. J. Virol. 89: 2643-2658.
2. Han, K.J., et al. 2019. Deubiquitylase USP9X maintains centriolar satellite integrity by stabilizing pericentriolar material 1 protein. J. Cell Sci. 132: jcs221663.
3. Odabasi, E., et al. 2019. Centriolar satellites are required for efficient ciliogenesis and ciliary content regulation. EMBO Rep. 20: e47723.
4. Li, M., et al. 2020. MIB1-mediated degradation of WRN promotes cellular senescence in response to camptothecin treatment. FASEB J. 34: 11488-11497.
5. Majumdar, U., et al. 2021. Nitric oxide prevents aortic valve calcification by S-nitrosylation of USP9X to activate Notch signaling. Sci. Adv. 7: eabe3706.
6. Renaud, C.C.N., et al. 2023. The centrosomal protein 131 participates in the regulation of mitochondrial apoptosis. Commun. Biol. 6: 1271.
7. Saha, S., et al. 2023. The TDRD3-USP9X complex and MIB1 regulate TOP3B homeostasis and prevent deleterious TOP3B cleavage complexes. Nat. Commun. 14: 7524.
8. Hua, M., et al. 2024. RNA-binding protein THUMPD2 inhibits proliferation and promotes metastasis in epithelial ovarian cancer. Heliyon 10: e33201.

RESEARCH USE

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