

HIP-55 (7): sc-135935

BACKGROUND

Drebrins (developmentally regulated brain proteins) are cytoplasmic proteins that bind F-Actin in the brain and are involved in cell migration, extension of neuronal processes and plasticity of dendrites. HIP-55 (HPK1-interacting protein of 55 kDa), also known as ABP1, SH3P7 or DBNL (drebrin-like), is a 430 amino acid cytoplasmic protein that belongs to the ABP1 family. HIP-55 binds to F-Actin but is not involved in Actin polymerization, capping or bundling. In addition to containing an ADF-H domain, HIP-55 also consists of a SH3 domain, which mediates interaction with SHANK2, SHANK3 and PRAM-1. HIP-55 acts as an Actin-binding adapter protein and as a common effector of antigen receptor-signaling pathways in leukocytes. As a key component of the immunological synapse, HIP-55 regulates T-cell activation by bridging TCRs and the Actin cytoskeleton to gene activation and endocytic processes. HIP-55 is degraded by caspases during apoptosis.

REFERENCES

1. Chen, Y.R., et al. 2001. Caspase-mediated cleavage of Actin-binding and SH3-domain-containing proteins cortactin, HS1, and HIP-55 during apoptosis. *Biochem. Biophys. Res. Commun.* 288: 981-989.
2. Kessels, M.M., et al. 2001. Mammalian Abp1, a signal-responsive F-Actin-binding protein, links the Actin cytoskeleton to endocytosis via the GTPase dynamin. *J. Cell Biol.* 153: 351-366.
3. Mise-Omata, S., et al. 2003. Mammalian Actin binding protein 1 is essential for endocytosis but not lamellipodia formation: functional analysis by RNA interference. *Biochem. Biophys. Res. Commun.* 301: 704-710.
4. Han, J., et al. 2003. The SH3 domain-containing adaptor HIP-55 mediates c-Jun N-terminal kinase activation in T cell receptor signaling. *J. Biol. Chem.* 278: 52195-52202.
5. Le Bras, S., et al. 2004. Recruitment of the Actin-binding protein HIP-55 to the immunological synapse regulates T cell receptor signaling and endocytosis. *J. Biol. Chem.* 279: 15550-15560.
6. Denis, F.M., et al. 2005. PRAM-1 potentiates arsenic trioxide-induced JNK activation. *J. Biol. Chem.* 280: 9043-9048.
7. Han, J., et al. 2005. HIP-55 is important for T cell proliferation, cytokine production, and immune responses. *Mol. Cell. Biol.* 25: 6869-6878.
8. Le Bras, S., et al. 2007. Abl-SH3 binding protein 2, 3BP2, interacts with CIN85 and HIP-55. *FEBS Lett.* 581: 967-974.
9. Haecel, A., et al. 2008. The Actin-binding protein Abp1 controls dendritic spine morphology and is important for spine head and synapse formation. *J. Neurosci.* 28: 10031-10044.

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.

CHROMOSOMAL LOCATION

Genetic locus: DBNL (human) mapping to 7p13.

SOURCE

HIP-55 (7) is a mouse monoclonal antibody raised against amino acids 270-382 of HIP-55 of human origin.

PRODUCT

Each vial contains 50 µg IgG₁ in 500 µl of PBS with < 0.1% sodium azide, 0.1% gelatin, 20% glycerol and 0.04% stabilizer protein.

APPLICATIONS

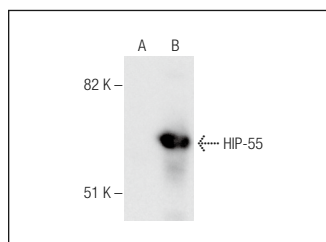
HIP-55 (7) is recommended for detection of HIP-55 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for HIP-55 siRNA (h): sc-75255, HIP-55 shRNA Plasmid (h): sc-75255-SH and HIP-55 shRNA (h) Lentiviral Particles: sc-75255-V.

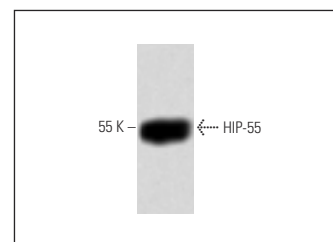
Molecular Weight of HIP-55: 55 kDa.

Positive Controls: HIP-55 (h): 293T Lysate: sc-371066 or HeLa whole cell lysate: sc-2200.

DATA



HIP-55 (7): sc-135935. Western blot analysis of HIP-55 expression in non-transfected: sc-117752 (A) and human HIP-55 transfected: sc-371066 (B) 293T whole cell lysates.



HIP-55 (7): sc-135935. Western blot analysis of HIP-55 expression in HeLa whole cell lysate.

RESEARCH USE

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