

# HIP-55 (E-11): sc-398498



The Power to Question

## 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

- 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.
- 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.
- 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.
- 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.

## CHROMOSOMAL LOCATION

Genetic locus: DBNL (human) mapping to 7p13; Dbnl (mouse) mapping to 11 A1.

## SOURCE

HIP-55 (E-11) is a mouse monoclonal antibody raised against amino acids 100-186 mapping near the N-terminus of HIP-55 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

HIP-55 (E-11) is available conjugated to agarose (sc-398498 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-398498 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398498 PE), fluorescein (sc-398498 FITC), Alexa Fluor® 488 (sc-398498 AF488), Alexa Fluor® 546 (sc-398498 AF546), Alexa Fluor® 594 (sc-398498 AF594) or Alexa Fluor® 647 (sc-398498 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-398498 AF680) or Alexa Fluor® 790 (sc-398498 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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

## APPLICATIONS

HIP-55 (E-11) is recommended for detection of HIP-55 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), 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).

Suitable for use as control antibody for HIP-55 siRNA (h): sc-75255, HIP-55 siRNA (m): sc-75256, HIP-55 shRNA Plasmid (h): sc-75255-SH, HIP-55 shRNA Plasmid (m): sc-75256-SH, HIP-55 shRNA (h) Lentiviral Particles: sc-75255-V and HIP-55 shRNA (m) Lentiviral Particles: sc-75256-V.

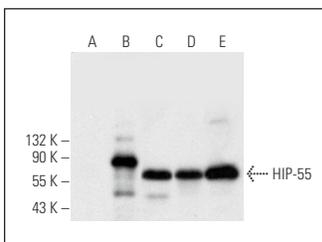
Molecular Weight of HIP-55: 55 kDa.

Positive Controls: HIP-55 (h): 293T Lysate: sc-371066, Jurkat whole cell lysate: sc-2204 or Raji whole cell lysate: sc-364236.

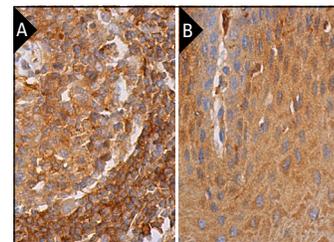
## RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

## DATA



HIP-55 (E-11): sc-398498. Western blot analysis of HIP-55 expression in non-transfected 293T: sc-117752 (A), human HIP-55 transfected 293T: sc-371066 (B), U-698-M (C), Jurkat (D) and Raji (E) whole cell lysates.



HIP-55 (E-11): sc-398498. Immunoperoxidase staining of formalin fixed, paraffin-embedded human lymph node tissue showing cytoplasmic staining of cells in germinal center and cells in non-germinal center (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human esophagus tissue showing cytoplasmic staining of squamous epithelial cells (B).

## 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.