SANTA CRUZ BIOTECHNOLOGY, INC.

hippocalcin (G-8): sc-393125

BACKGROUND

Hippocalcin is a neuron-specific calcium-binding protein found primarily in the plasma membrane of brain and retinal tissue, with increased expression observed in hippocampal pyramidal cells. Through its calcium-dependent signal regulation, hippocalcin can both inhibit rhodopsin kinase and increase phospholipase D2 expression. In order to regulate kinase and phospholipase activity, hippocalcin must bind to the plasma membrane where it can then bind two calcium ions for use in signal regulation. The hippocalcin protein is highly conserved in mouse, rat and human tissue and has a suggested role in neural plasticity and associative memory by contributing to the survival of neurons during aging. The loss of hippocalcin expression is thought to contribute to age-related impairment of post-synaptic functions related to neuronal degradation.

CHROMOSOMAL LOCATION

Genetic locus: HPCA (human) mapping to 1p35.1; Hpca (mouse) mapping to 4 D2.2.

SOURCE

hippocalcin (G-8) is a mouse monoclonal antibody raised against amino acids 129-175 mapping near the C-terminus of hippocalcin of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

hippocalcin (G-8) is available conjugated to agarose (sc-393125 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-393125 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393125 PE), fluorescein (sc-393125 FITC), Alexa Fluor® 488 (sc-393125 AF488), Alexa Fluor® 546 (sc-393125 AF546), Alexa Fluor® 594 (sc-393125 AF594) or Alexa Fluor® 647 (sc-393125 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393125 AF680) or Alexa Fluor® 790 (sc-393125 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

hippocalcin (G-8) is recommended for detection of hippocalcin 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). hippocalcin (G-8) is also recommended for detection of hippocalcin in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for hippocalcin siRNA (h): sc-72249, hippocalcin siRNA (m): sc-72250, hippocalcin shRNA Plasmid (h): sc-72249-SH, hippocalcin shRNA Plasmid (m): sc-72250-SH, hippocalcin shRNA (h) Lentiviral Particles: sc-72249-V and hippocalcin shRNA (m) Lentiviral Particles: sc-72250-V.

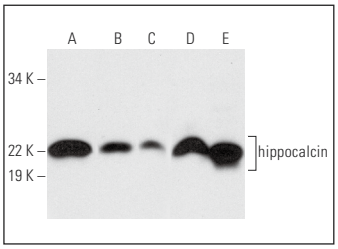
Molecular Weight of hippocalcin: 22 kDa.

Positive Controls: Y79 cell lysate: sc-2240, SH-SY5Y cell lysate: sc-3812 or mouse brain extract: sc-2253.

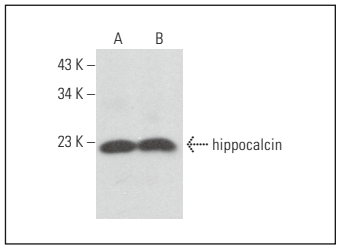
RECOMMENDED SUPPORT REAGENTS

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



hippocalcin (G-8): sc-393125. Western blot analysis of hippocalcin expression in Y79 (**A**), U-87-MG (**B**) and SH-SY5Y (**C**) whole cell lysates and human hippocampus (**D**) and mouse brain (**E**) tissue extracts.



hippocalcin (G-8): sc-393125. Western blot analysis of hippocalcin expression in rat brain (**A**) and rat hippocampus (**B**) tissue extracts.

SELECT PRODUCT CITATIONS

1. López-Hurtado, A., et al. 2018. Inhibition of DREAM-ATF6 interaction delays onset of cognition deficit in a mouse model of Huntington's disease. Mol. Brain 11: 13.
2. Bagán, A., et al. 2025. Discovery of (3-phenylcarbamoyl-3,4-dihydro-2H-pyrrol-2-yl)phosphonates as imidazoline I_2 receptor ligands with anti-Alzheimer and analgesic properties. J. Med. Chem. 68: 2551-2573.

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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.