α-chimaerin (G-8): sc-365985

BACKGROUND

The Rac-GAP chimaerin family member α-chimaerin (also known as N-chimaerin or rho GTGase-activating protein 2) has two splice variants: α1 and α2. The α1-chimaerin variant is a neuron-specific, diacylglycerol-binding and GTP-activating protein for Ras-related protein Rac 1. This variant lacks the N-terminal SH2 domain that is present in the α2 variant. By inactivating Rac 1, α1-chimaerin plays a significant role in the regulation of dendritic growth during neuronal development. It is recruited to the plasma membrane by phospholipase Cβ-coupled cell surface receptors activating the downstream generation of DAG (diacylglycerol). Overexpression of α1-chimaerin results in dendritic spine retraction and the loss of dendritic branches. In the presence of reduced neuronal activity, α-chimaerin expression is down-regulated resulting in an increase in spine growth and dendritic branching.

REFERENCES


CHROMOSOMAL LOCATION

Genetic locus: CHN1 (human) mapping to 2q31.1; Chn1 (mouse) mapping to 3q63.

APPLICATIONS

α-chimaerin (G-8) is recommended for detection of α2 isoform of α-chimaerin 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 1:30-1:300).

Suitable for use as control antibody for α-chimaerin siRNA (h): sc-72412, α-chimaerin siRNA (m): sc-72413, α-chimaerin shRNA Plasmid (h): sc-72412-SH, α-chimaerin shRNA Plasmid (m): sc-72413-SH, α-chimaerin siRNA (h) Lentiviral Particles: sc-72412-V and α-chimaerin siRNA (m) Lentiviral Particles: sc-72413-V.

Molecular Weight of α-chimaerin: 38 kDa.

Positive Controls: α-chimaerin (h): 293 Lysate: sc-111496, HeLa whole cell lysate: sc-2200 or PC-12 whole cell lysate: sc-2250.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:
2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA

α-chimaerin (G-8): sc-365985, Western blot analysis of α-chimaerin expression in HeLa (A), PC-12 (B), HEK293 (C), NIH/3T3 (D) and U-251-M5 (E) whole cell lysates.

SELECT PRODUCT CITATIONS


STORAGE

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

SOURCE

α-chimaerin (G-8) is a mouse monoclonal antibody raised against amino acids 144-183 mapping within an internal region of α-chimaerin of human origin.

PRODUCT

Each vial contains 200 µg IgG® kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

α-chimaerin (G-8) is available conjugated to agarose (sc-365985 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365985 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365985 PE), fluorescein (sc-365985 FITC), Alexa Fluor® 488 (sc-365985 AF488), Alexa Fluor® 546 (sc-365985 AF546), Alexa Fluor® 594 (sc-365985 AF594) or Alexa Fluor® 647 (sc-365985 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365985 AF680) or Alexa Fluor® 790 (sc-365985 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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RESEARCH USE

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