

α -chimaerin (H-49): sc-98344

BACKGROUND

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

REFERENCES

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- Van de Ven, T.J., Van Dongen, H.M. and Van Dongen, A.M. 2005. The nonkinase phorbol ester receptor α 1-chimaerin binds the NMDA receptor NR2A subunit and regulates dendritic spine density. *J. Neurosci.* 25: 9488-9496.

CHROMOSOMAL LOCATION

Genetic locus: CHN1 (human) mapping to 2q31.1; Chn1 (mouse) mapping to 2 C3.

SOURCE

α -chimaerin (H-49) is a rabbit polyclonal antibody raised against amino acids 1-49 mapping at the N-terminus of α -chimaerin of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

α -chimaerin (H-49) is recommended for detection of α 1 and α 2 isoforms of α -chimaerin of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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).

α -chimaerin (H-49) is also recommended for detection of α 1 and α 2 isoforms of α -chimaerin in additional species, including equine, canine, bovine and porcine.

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 shRNA (h) Lentiviral Particles: sc-72412-V and α -chimaerin shRNA (m) Lentiviral Particles: sc-72413-V.

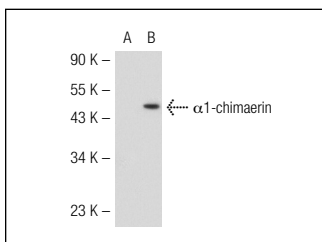
Molecular Weight of α -chimaerin: 38 kDa.

Positive Controls: α -chimaerin (h): 293 Lysate: sc-111146.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



α -chimaerin (H-49): sc-98344. Western blot analysis of α 1-chimaerin expression in non-transfected: sc-110760 (A) and human α 1-chimaerin transfected: sc-111146 (B) 293 whole cell lysates.

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.