

SynGAP (S-20): sc-8571

BACKGROUND

The PSD-95/SAP 90 family of proteins, which are known to bind to and cluster various membrane proteins, are involved in the organization of synaptic structure. SynGAP (for synaptic GTPase activating protein), a novel synaptic RasGAP, is a brain-specific protein abundant in the cortex, hippocampus and olfactory bulb. SynGAP interacts with all three PDZ domains within PSD-95/SAP 90 proteins. SynGAP represents one of three classes of mammalian RasGAPs and is specifically localized to excitatory synapses possessing NMDA receptors. SynGAP may be involved in the regulation of BDNF as well as Ras signaling. Its activity is inhibited by phosphorylation by CaMKII which could result in the activation of the MAP kinase pathway.

REFERENCES

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- Krapivinsky, G., et al. 2004. SynGAP-MUPP1-CaMKII synaptic complexes regulate p38 MAP kinase activity and NMDA receptor-dependent synaptic AMPA receptor potentiation. *Neuron* 43: 563-574.
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CHROMOSOMAL LOCATION

Genetic locus: SYNGAP1 (human) mapping to 6p21.32; Syngap1 (mouse) mapping to 17 A3.3.

SOURCE

SynGAP (S-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of SynGAP of rat origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-8571 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

SynGAP (S-20) is recommended for detection of SynGAP of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

SynGAP (S-20) is also recommended for detection of SynGAP in additional species, including equine, bovine and porcine.

Suitable for use as control antibody for SynGAP siRNA (h): sc-42283, SynGAP siRNA (m): sc-42284, SynGAP shRNA Plasmid (h): sc-42283-SH, SynGAP shRNA Plasmid (m): sc-42284-SH, SynGAP shRNA (h) Lentiviral Particles: sc-42283-V and SynGAP shRNA (m) Lentiviral Particles: sc-42284-V.

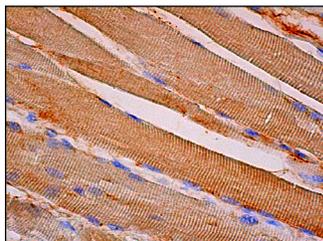
Molecular Weight of SynGAP: 135 kDa.

Positive Controls: Mouse brain extract sc-2253.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 3) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



SynGAP (S-20): sc-8571. Immunoperoxidase staining of formalin fixed, paraffin-embedded human skeletal muscle tissue showing cytoplasmic staining of myocytes.

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.