

Product datasheet

Anti-SynGAP (phospho S1123) antibody ab16649

★★★★☆ [3 Abreviews](#) [1 References](#) [2 Images](#)

Overview

Product name	Anti-SynGAP (phospho S1123) antibody
Description	Rabbit polyclonal to SynGAP (phospho S1123)
Host species	Rabbit
Tested applications	Suitable for: WB, IHC (PFA fixed), ICC/IF, IHC-Fr
Species reactivity	Reacts with: Rat Predicted to work with: Human  Does not react with: Mouse
Immunogen	Synthetic peptide conjugated to KLH derived from within residues 1100 - 1200 of Rat SynGAP, phosphorylated at S1123. Read Abcam's proprietary immunogen policy (Peptide available as ab16982 .)
Positive control	SynGAP is enriched in the hippocampus, rat hippocampus can be used as a control for SynGAP (phospho S1123) expression. A predicted positive control would be ischaemic rat brain tissue based on publication by Song et al, 2004 (see references section).

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C or -80°C. Avoid freeze / thaw cycle.
Storage buffer	Preservative: 0.02% Sodium Azide Constituents: 1% BSA, PBS, pH 7.4
Purity	Immunogen affinity purified
Clonality	Polyclonal
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab16649 in the following tested applications. The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
WB	★★★★☆ (2)	Use at an assay dependent concentration.
IHC (PFA fixed)		Use a concentration of 0.2 µg/ml.
ICC/IF		Use a concentration of 1 µg/ml.
IHC-Fr	★★★★★ (1)	Use at an assay dependent concentration.

Target

Function

Major constituent of the PSD essential for postsynaptic signaling. Inhibitory regulator of the Ras-cAMP pathway. Member of the NMDAR signaling complex in excitatory synapses, it may play a role in NMDAR-dependent control of AMPAR potentiation, AMPAR membrane trafficking and synaptic plasticity. Regulates AMPAR-mediated miniature excitatory postsynaptic currents. May be involved in certain forms of brain injury, leading to long-term learning and memory deficits.

Involvement in disease

Defects in SYNGAP1 are the cause of mental retardation autosomal dominant type 5 (MRD5) [MIM:612621]. Mental retardation is characterized by significantly sub-average general intellectual functioning associated with impairments in adaptive behavior and manifested during the developmental period. MRD5 patients show global developmental delay with delayed motor development, hypotonia, moderate-to-severe mental retardation, and severe language impairment. Autism can be present in some patients.

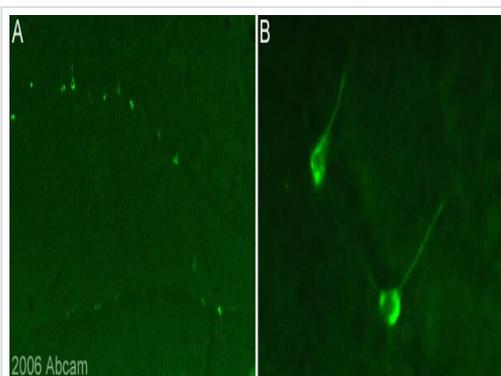
Sequence similarities

Contains 1 C2 domain.
 Contains 1 PH domain.
 Contains 1 Ras-GAP domain.

Post-translational modifications

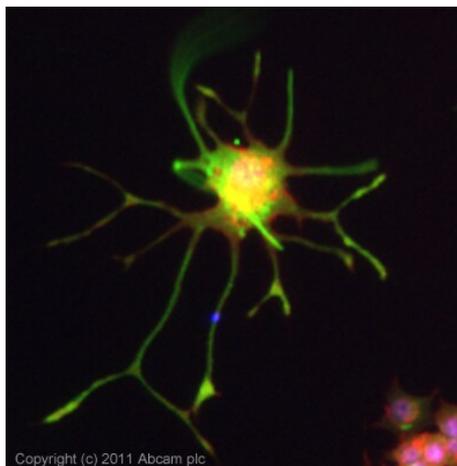
Phosphorylated by CaM-kinase II. Dephosphorylated upon NMDA receptor activation or SYNGAP1/MPDZ complex disruption.

Images



Immuofluorescent staining for SynGap phospho S1123 in the hippocampus of a naive rat using antibody ab16649. [A] Immunostaining was observed in the cytoplasm of a few hippocampal neurons (Picture taken with a X10 objective). Higher power magnification of the same hippocampal section is shown in image B (X 40 objective). Tissue preparation: rat brain tissue was perfusion fixed (4% PFA) followed by post fix and cryoprotection in 20% sucrose before freezing in OCT. 30µm coronal sections were cut on a cryostat for free floating IHC. Primary antibody ab16649 was used at 1/3000 (0.2µg/ml) incubated overnight at room temperature. Secondary antibody used: anti-rabbit Alexa fluor 488 (1/1000) incubate

Immunohistochemistry (PFA fixed) - Anti-SynGAP (phospho S1123) antibody (ab16649)
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Immunocytochemistry/ Immunofluorescence - Anti-SynGAP (phospho S1123) antibody (ab16649)

ICC/IF image of ab16649 stained PC12 cells. The cells were 4% PFA fixed (10 min) and then incubated in 1%BSA / 10% normal goat serum / 0.3M glycine in 0.1% PBS-Tween for 1h to permeabilise the cells and block non-specific protein-protein interactions. The cells were then incubated with the antibody (ab16649, 1µg/ml) overnight at +4°C. The secondary antibody (green) was **ab96899** Dylight 488 goat anti-rabbit IgG (H+L) used at a 1/250 dilution for 1h. Alexa Fluor® 594 WGA was used to label plasma membranes (red) at a 1/200 dilution for 1h. DAPI was used to stain the cell nuclei (blue) at a concentration of 1.43µM.

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