SANTA CRUZ BIOTECHNOLOGY, INC.

SAPAP1 (21): sc-136524

BACKGROUND

Members of the postsynaptic density-95 (PSD-95)/SAP90 family of membrane-associated guanylate kinase (MAGUK) proteins function as multimodular scaffolds that organize protein-signaling complexes at neuronal synapses. PSD-95/SAP90 binds guanylate kinase-associated protein (GKAP), also designated GK domain-binding protein, DAP-1-a, DAP-1-b, PSD-95 binding protein, PSD-95/SAP90 associated protein, or SAPAP, through the guanylate kinase domain. GKAP is expressed widely in neurons of the cortex and hippocampus and in the Purkinje and granule cells of the cerebellum. GKAP is localized specifically in the PSD of glutamatergic synapses, consistent with its direct interaction with PSD-95 family proteins.

REFERENCES

1. Kim, E., et al. 1997. GKAP, a novel synaptic protein that interacts with the guanylate kinase-like domain of the PSD-95/SAP90 family of channel clustering molecules. J. Cell Biol. 136: 669-678.
2. Naisbitt, S., et al. 1997. Characterization of guanylate kinase-associated protein, a postsynaptic density protein at excitatory synapses that interacts directly with postsynaptic density 95/synapse-associated protein 90. J. Neurosci. 17: 5687-5696.
3. Deguchi, M., et al. 1998. BEGAIN (brain-enriched guanylate kinase-associated protein), a novel neuronal PSD-95/SAP90-binding protein. J. Biol. Chem. 273: 26269-26272.
4. Yamada, Y., et al. 1999. Activation of channel activity of the NMDA receptor-PSD-95 complex by guanylate kinase-associated protein (GKAP). FEBS Lett. 458: 295-298.
5. Passafaro, M., et al. 1999. Microtubule binding by CRIPT and its potential role in the synaptic clustering of PSD-95. Nat. Neurosci. 2: 1063-1069.

CHROMOSOMAL LOCATION

Genetic locus: DLGAP1 (human) mapping to 18p11.31; Dlgap1 (mouse) mapping to 17 E1.3.

SOURCE

SAPAP1 (21) is a mouse monoclonal antibody raised against amino acids 261-348 of SAPAP1 of human origin.

PRODUCT

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

SAPAP1 (21) is available conjugated to agarose (sc-136524 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-136524 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-136524 PE), fluorescein (sc-136524 FITC), Alexa Fluor® 488 (sc-136524 AF488), Alexa Fluor® 594 (sc-136524 AF594) or Alexa Fluor® 647 (sc-136524 AF647), 200 µg/ml, for IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-136524 AF680) or Alexa Fluor® 790 (sc-136524 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

SAPAP1 (21) is recommended for detection of SAPAP1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

SAPAP1 (21) is also recommended for detection of SAPAP1 in additional species, including canine.

Suitable for use as control antibody for SAPAP1 siRNA (h): sc-41997, SAPAP1 siRNA (m): sc-41998, SAPAP1 shRNA Plasmid (h): sc-41997-SH, SAPAP1 shRNA Plasmid (m): sc-41998-SH, SAPAP1 shRNA (h) Lentiviral Particles: sc-41997-V and SAPAP1 shRNA (m) Lentiviral Particles: sc-41998-V.

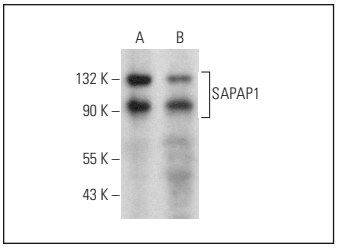
Molecular Weight of SAPAP1 splice variants: 95/130 kDa.

Positive Controls: Neuro-2A whole cell lysate: sc-364185, rat cerebellum extract: sc-2398 or rat hippocampus tissue extract.

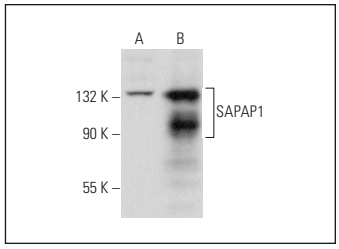
RECOMMENDED SUPPORT REAGENTS

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).

DATA



SAPAP1 (21): sc-136524. Western blot analysis of SAPAP1 expression in rat cerebellum (**A**) and rat hippocampus (**B**) tissue extracts.



SAPAP1 (21): sc-136524. Western blot analysis of SAPAP1 expression in Neuro-2A whole cell lysate (**A**) and mouse postnatal brain tissue extract (**B**).

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.