

# SAPAP4 (N-18): sc-86851

## BACKGROUND

A guanylate kinase is a phosphotransferase that produces ADP and GDP from the substrates ATP and GMP. SAPAP4, also known as DAP-4 (disks large-associated protein 2) and PSD-95/SAP90-binding protein 4, is a 992 amino acid protein that likely localizes to the postsynaptic membrane of neurons to enhance neuronal signaling. SAPAP4 could act as a signaling molecule which interacts with the human genes DLG1 and DLG4/PSD-95. The gene encoding SAPAP4, DLGAP4, maps to human chromosome 20. Comprising approximately 2% of the human genome, chromosome 20 contains nearly 63 million bases that encode over 600 genes, some of which are associated with Creutzfeldt-Jakob disease, amyotrophic lateral sclerosis, spinal muscular atrophy, ring chromosome 20 epilepsy syndrome and Alagille syndrome. Additionally, chromosome 20 contains a region with numerous genes which are thought important for seminal production and may be potential targets for male contraception.

## REFERENCES

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2. Takeuchi, M., Hata, Y., Hirao, K., Toyoda, A., Irie, M. and Takai, Y. 1997. SAPAPs. A family of PSD-95/SAP90-associated proteins localized at postsynaptic density. *J. Biol. Chem.* 272: 11943-11951.
3. Naisbitt, S., Kim, E., Weinberg, R.J., Rao, A., Yang, F.C., Craig, A.M. and Sheng, M. 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.
4. Ranta, S., Zhang, Y., Ross, B., Takkunen, E., Hirvasniemi, A., de la Chapelle, A., Gilliam, T.C. and Lehesjoki, A.E. 2000. Positional cloning and characterization of the human DLGAP2 gene and its exclusion in progressive epilepsy with mental retardation. *Eur. J. Hum. Genet.* 8: 381-384.

## CHROMOSOMAL LOCATION

Genetic locus: DLGAP4 (human) mapping to 20q11.23; Dlgap4 (mouse) mapping to 2 H1.

## SOURCE

SAPAP4 (N-18) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping near the N-terminus of SAPAP4 of human origin.

## PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-86851 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

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

## APPLICATIONS

SAPAP4 (N-18) is recommended for detection of SAPAP4 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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 1:30-1:3000); non cross-reactive with other SAPAP family members.

SAPAP4 (N-18) is also recommended for detection of SAPAP4 in additional species, including equine and canine.

Suitable for use as control antibody for SAPAP4 siRNA (h): sc-76449, SAPAP4 siRNA (m): sc-153221, SAPAP4 shRNA Plasmid (h): sc-76449-SH, SAPAP4 shRNA Plasmid (m): sc-153221-SH, SAPAP4 shRNA (h) Lentiviral Particles: sc-76449-V and SAPAP4 shRNA (m) Lentiviral Particles: sc-153221-V.

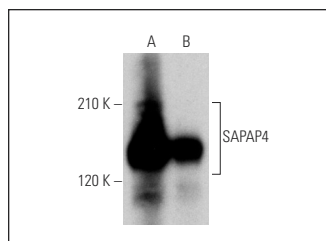
Molecular Weight of SAPAP4: 108 kDa.

Positive Controls: mouse brain extract: sc-2253 or rat brain extract: sc-2392.

## 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



SAPAP4 (N-18): sc-86851. Western blot analysis of SAPAP4 expression in mouse brain (A) and rat brain (B) tissue extracts.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.