

## AP-4 $\sigma$ (N-13): sc-18490

### BACKGROUND

AP-4 (adaptor-related protein complex 4) is a heterotetrameric complex comprised of subunits designated AP-4 $\beta$ , AP-4 $\epsilon$ , AP-4 $\mu$  and AP-4 $\sigma$ . AP-4 mediates the incorporation of cargo into transport vesicles by interacting with motifs present in the cytoplasmic tails of their specific cargo proteins at different intracellular locations. AP-4 localizes on the cytoplasmic face of the *trans*-Golgi network (TGN), Clathrin coat machinery of endosomes, and transport vesicles. AP-4 can position together with the CI-MPR (cation-independent mannose 6-phosphate receptor). AP-4 may influence trafficking of glutamate receptor  $\delta 2$  (Grid2) in the brain. AP-4 participates in basolateral sorting in epithelial cells. AP-4 complex is expressed ubiquitously in many regions of brain, with localization on the Golgi-like structures in the cell bodies and dendrites of neurons.

### REFERENCES

- Hirst, J., et al. 1999. Characterization of a fourth adaptor-related protein complex. *Mol. Biol. Cell.* 10: 2787-2802.
- Dell'Angelica, E.C., et al. 1999. AP-4, a novel protein complex related to Clathrin adaptors. *J. Biol. Chem.* 274: 7278-7285.
- Boehm, M., et al. 2001. Functional and physical interactions of the adaptor protein complex AP-4 with ADP-ribosylation factors (ARFs). *EMBO J.* 20: 6265-6276.
- Aguilar, R.C., et al. 2001. Signal-binding specificity of the  $\mu 4$  subunit of the adaptor protein complex AP-4. *J. Biol. Chem.* 276: 13145-13152.
- Simmen, T., et al. 2002. AP-4 binds basolateral signals and participates in basolateral sorting in epithelial MDCK cells. *Nat. Cell. Biol.* 4: 154-159.
- Yap, C.C., et al. 2003. Adaptor protein complex-4 (AP-4) is expressed in the central nervous system neurons and interacts with glutamate receptor  $\delta 2$ . *Mol. Cell. Neurosci.* 24: 283-295.
- Barois, N., et al. 2005. The adaptor protein AP-4 as a component of the Clathrin coat machinery: a morphological study. *Biochem. J.* 385: 503-510.

### CHROMOSOMAL LOCATION

Genetic locus: AP4S1 (human) mapping to 14q12; Ap4s1 (mouse) mapping to 12 C1.

### SOURCE

AP-4 $\sigma$  (N-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of AP-4 $\sigma$  of human origin.

### PRODUCT

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

Blocking peptide available for competition studies, sc-18490 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

### RESEARCH USE

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

### APPLICATIONS

AP-4 $\sigma$  (N-13) is recommended for detection of AP-4 $\sigma$  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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

AP-4 $\sigma$  (N-13) is also recommended for detection of AP-4 $\sigma$  in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for AP-4 $\sigma$  siRNA (h): sc-105077, AP-4 $\sigma$  siRNA (m): sc-141138, AP-4 $\sigma$  shRNA Plasmid (h): sc-105077-SH, AP-4 $\sigma$  shRNA Plasmid (m): sc-141138-SH, AP-4 $\sigma$  shRNA (h) Lentiviral Particles: sc-105077-V and AP-4 $\sigma$  shRNA (m) Lentiviral Particles: sc-141138-V.

Molecular Weight of AP-4 $\sigma$ : 17 kDa.

### 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<sup>™</sup> compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker<sup>™</sup> 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<sup>™</sup> Mounting Medium: sc-24941.

### STORAGE

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

### PROTOCOLS

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