

# AP-2 $\mu$ 1 (D-7): sc-515920

## BACKGROUND

Adaptins are heterotetrameric subunits of adaptors, which are complexes involved in the formation of Clathrin-coated pits for vesicle-mediated endocytosis. Clathrin and its associated heterotetrameric protein complexes make up the main protein components of the coat surrounding the cytoplasmic face of coated vesicles. The Adaptin family, comprising  $\alpha$ ,  $\beta$ ,  $\beta'$  and  $\gamma$  classes, is also responsible for the transport of ligand-receptor complexes from plasma membranes and the *trans*-Golgi network to lysosomes. Two main types of adaptor proteins (APs), AP-1 and AP-2, are found in Clathrin-coated structures located at the Golgi complex and the plasma membrane of mammalian cells, respectively. Adaptor protein complex 2 (AP-2) is composed of two large Adaptins ( $\alpha$ 1A/AP2A1 and  $\beta$ 1/AP2B1), a medium Adaptin ( $\mu$ 2/AP-2 $\mu$ 1) and a small Adaptin ( $\sigma$ 2 long/AP2S1). AP-2 $\mu$ 1, a 435 amino acid protein, links Clathrin to receptors in coated vesicles.

## REFERENCES

1. Takatsu, H., et al. 1998. Identification and characterization of novel clathrin adaptor-related proteins. *J. Biol. Chem.* 273: 24693-24700.
2. Nakatsu, F., et al. 1999. Genomic structure and chromosome mapping of the genes encoding clathrin-associated adaptor medium chains  $\mu$ 1A (Ap1m1) and  $\mu$ 1B (Ap1m2). *Cytogenet. Cell Genet.* 87: 53-58.
3. Shim, J., et al. 2000. Distinct and redundant functions of  $\mu$ 1 medium chains of the AP-1 clathrin-associated protein complex in the nematode *Caenorhabditis elegans*. *Mol. Biol. Cell* 11: 2743-2756.

## CHROMOSOMAL LOCATION

Genetic locus: AP2M1 (human) mapping to 3q27.1; Ap2m1 (mouse) mapping to 16 A3.

## SOURCE

AP-2 $\mu$ 1 (D-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 16-38 at the N-terminus of AP-2 $\mu$ 1 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>2b</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

AP-2 $\mu$ 1 (D-7) is available conjugated to agarose (sc-515920 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-515920 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515920 PE), fluorescein (sc-515920 FITC), Alexa Fluor® 488 (sc-515920 AF488), Alexa Fluor® 546 (sc-515920 AF546), Alexa Fluor® 594 (sc-515920 AF594) or Alexa Fluor® 647 (sc-515920 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515920 AF680) or Alexa Fluor® 790 (sc-515920 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

## STORAGE

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

## APPLICATIONS

AP-2 $\mu$ 1 (D-7) is recommended for detection of AP-2 $\mu$ 1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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).

Suitable for use as control antibody for AP-2 $\mu$ 1 siRNA (h): sc-60184, AP-2 $\mu$ 1 siRNA (m): sc-60185, AP-2 $\mu$ 1 shRNA Plasmid (h): sc-60184-SH, AP-2 $\mu$ 1 shRNA Plasmid (m): sc-60185-SH, AP-2 $\mu$ 1 shRNA (h) Lentiviral Particles: sc-60184-V and AP-2 $\mu$ 1 shRNA (m) Lentiviral Particles: sc-60185-V.

Molecular Weight of AP-2 $\mu$ 1: 50 kDa.

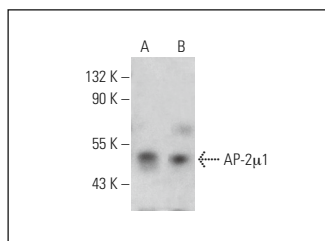
Positive Controls: HeLa whole cell lysate: sc-2200, WI-38 whole cell lysate: sc-364260 or C6 whole cell lysate: sc-364373.

## RECOMMENDED SUPPORT REAGENTS

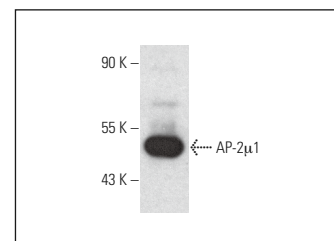
To ensure optimal results, the following support reagents are recommended:

- 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  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).
- 3) Immunofluorescence: use m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



AP-2 $\mu$ 1 (D-7): sc-515920. Western blot analysis of AP-2 $\mu$ 1 expression in HeLa (A) and WI-38 (B) whole cell lysates.



AP-2 $\mu$ 1 (D-7): sc-515920. Western blot analysis of AP-2 $\mu$ 1 expression in C6 whole cell lysate.

## SELECT PRODUCT CITATIONS

1. Fred, S.M., et al. 2019. Pharmacologically diverse antidepressants facilitate TRKB receptor activation by disrupting its interaction with the endocytic adaptor complex AP-2. *J. Biol. Chem.* 294: 18150-18161.
2. Biojone, C., et al. 2023. nNOS-induced tyrosine nitration of TRKB impairs BDNF signaling and restrains neuronal plasticity. *Prog. Neurobiol.* 222: 102413.

## RESEARCH USE

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