

# $\alpha$ -Adaptin 2 (M-16): sc-6422

## BACKGROUND

Clathrin-coated pits and vesicles are assembled for receptor-mediated endocytosis through interaction with clathrin associated protein complexes. Vesicle transport is mediated from the *trans*-Golgi network by the adapter complex AP-1 and from the plasma membrane by the AP-2 complex. The AP-1 and AP-2 adapter protein complexes consist of clathrin binding adaptin proteins ( $\gamma$ -Adaptin and  $\beta$ -Adaptin for AP-1;  $\alpha$ -Adaptin 1,  $\alpha$ -Adaptin 2 and  $\beta$ 2-Adaptin for AP-2) and two smaller subunits known as AP50 and AP17. The  $\alpha$ - and  $\beta$ -Adaptin chains have a similar two-domain organization with C-terminal domains that vary in both sequence and length.  $\alpha$ -Adaptin splice variants 1 and 2 display variable relative expression levels and differential distribution in different tissues. AP180 (also designated AP-3 or F1-20) is a synapse-specific Clathrin assembly protein. The protein CALM (clathrin assembly protein lymphoid myeloid leukemia) is highly homologous to AP180 and may also be involved in Clathrin assembly.

## REFERENCES

- Kirchhausen, T., et al. 1989. Structural and functional division into two domains of the large (100 to 115 kDa) chains of the Clathrin-associated protein complex AP-2. Proc. Natl. Acad. Sci. USA 86: 2612-2616.
- Robinson, M.S. 1989. Cloning of cDNAs encoding two related 100 kDa coated vesicle proteins ( $\alpha$ -Adaptins). J. Cell Biol. 108: 833-842.
- Robinson, M.S. 1990. Cloning and expression of  $\gamma$ -adaptin, a component of Clathrin-coated vesicles associated with the Golgi apparatus. J. Cell Biol. 111: 2319-2326.
- Ponnambalam, S., et al. 1990. Conservation and diversity in families of coated vesicle adaptins. J. Biol. Chem. 265: 4814-4820.
- Morris, S.A., et al. 1993. Clathrin assembly protein AP180: primary structure, domain organization and identification of a Clathrin binding site. EMBO J. 12: 667-675.

## CHROMOSOMAL LOCATION

Genetic locus: AP2A1 (human) mapping to 19q13.33, AP2A2 (human) mapping to 11p15.5; Ap2a1 (mouse) mapping to 7 B2, Ap2a2 (mouse) mapping to 7 F5.

## SOURCE

$\alpha$ -Adaptin 2 (M-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of  $\alpha$ -Adaptin 2 of mouse 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-6422 P, (100  $\mu$ g 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

$\alpha$ -Adaptin 2 (M-16) is recommended for detection of  $\alpha$ -Adaptin 2 of mouse, rat and, to a lesser extent, human origin by Western Blotting (starting dilution 1:200, 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); may cross-react with  $\alpha$ -Adaptin 1.

$\alpha$ -Adaptin 2 (M-16) is also recommended for detection of  $\alpha$ -Adaptin 2 in additional species, including canine, bovine and avian.

Suitable for use as control antibody for  $\alpha$ -Adaptin 2 siRNA (m): sc-29611,  $\alpha$ -Adaptin 2 shRNA Plasmid (m): sc-29611-SH and  $\alpha$ -Adaptin 2 shRNA (m) Lentiviral Particles: sc-29611-V.

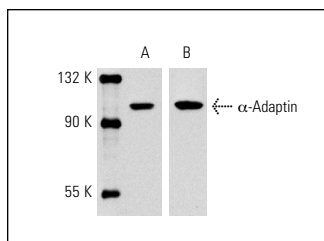
Molecular Weight of  $\alpha$ -Adaptin: 100 kDa.

Positive Controls: KNRK whole cell lysate: sc-2214, NIH/3T3 whole cell lysate: sc-2210 or BC<sub>3</sub>H1 cell lysate: sc-2299.

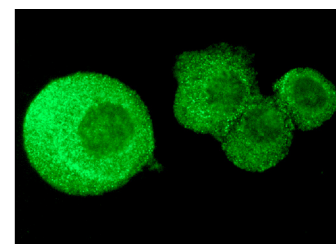
## RECOMMENDED SECONDARY REAGENTS

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™ compatible donkey anti-goat IgG-HRP: sc-2033 (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 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™ Mounting Medium: sc-24941.

## DATA



Western blot analysis of  $\alpha$ -Adaptin expression in KNRK whole cell lysates (A,B). Antibodies tested include  $\alpha$ -Adaptin 2 (M-16): sc-6421 (A) and  $\alpha$ -Adaptin 2 (M-16): sc-6422 (B).



$\alpha$ -Adaptin 2 (M-16): sc-6422. Immunofluorescence staining of methanol-fixed KNRK cells showing cytoplasmic localization.

## RESEARCH USE

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



Try  $\alpha$ -Adaptin 1/2 (C-8): sc-17771 or  $\alpha$ -Adaptin 2 (F-12): sc-55497, our highly recommended monoclonal alternatives to  $\alpha$ -Adaptin 2 (M-16). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see  $\alpha$ -Adaptin 1/2 (C-8): sc-17771.