SANTA CRUZ BIOTECHNOLOGY, INC.

# α-Adaptin 1/2 (4i290): sc-69974

## 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 (γ-Adaptin and β-Adaptin for AP-1; α-Adaptin 1, α-Adaptin 2 and β2-Adaptin for AP-2) and two smaller subunits known as AP50 and AP17. The α- and β-Adaptin chains have a similar two-domain organization with C-terminal domains that vary in both sequence and length. α-Adaptin splice variants A and C 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


1. 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.
2. Robinson, M.S. 1989. Cloning of cDNAs encoding two related 100 kDa coated vesicle proteins (α-Adaptins). J. Cell Biol. 108: 833-842.
3. Robinson, M.S. 1990. Cloning and expression of γ-adaptin, a component of Clathrin-coated vesicles associated with the Golgi apparatus. J. Cell Biol. 111: 2319-2326.
4. Ponnambalam, S., et al. 1990. Conservation and diversity in families of coated vesicle adaptins. J. Biol. Chem. 265: 4814-4820.
5. 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.
6. Ball, C.L., et al. 1995. Expression and localization of α-Adaptin isoforms. J. Cell Sci. 108: 2865-2875.
7. Mellman, I. 1996. Endocytosis and molecular sorting. Annu. Rev. Cell Dev. Biol. 12: 575-625.
8. Dreyling, M.H., et al. 1996. The t(10;11) (p13;q14) in the U937 cell line of the AP-3 Clathrin assembly protein family. Proc. Natl. Acad. Sci. USA 93: 4804-4809.


## 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.

## 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 or our catalog for detailed protocols and support products.

## SOURCE

α-Adaptin 1/2 (4i290) is a mouse monoclonal antibody raised against purified brain adaptor complexes of cow origin.

## PRODUCT

Each vial contains 100 µg $IgG_{2a}$ in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

α-Adaptin 1/2 (4i290) is recommended for detection of α-Adaptin 1 and 2, as well as an alternatively spliced isoform of α-Adaptin 1 found in neurons of mouse, rat, human and cow 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)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for α-Adaptin 1/2 siRNA (h): sc-29610 and α-Adaptin 1/2 siRNA (m): sc-43506.

Molecular Weight of α-Adaptin 1/2: 100 kDa.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (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-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## RESEARCH USE

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