SANTA CRUZ BIOTECHNOLOGY, INC.

α-Adaptin 1/2 (AP.6): sc-32284

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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.

CHROMOSOMAL LOCATION

Genetic locus: AP2A1 (human) mapping to 19q13.33, AP2A2 (human) mapping to 11p15.5; Ap2a1 (mouse) mapping to 7 B4, Ap2a2 (mouse) mapping to 7 F5.

SOURCE

α-Adaptin 1/2 (AP.6) is a mouse monoclonal antibody raised against adaptor protein purified from brain tissue homogenate of bovine origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

α-Adaptin 1/2 (AP.6) is recommended for detection of α-Adaptin 1 and α-Adaptin 2, as well as an alternatively spliced isoform of α-Adaptin 1 found in neurons 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

α-Adaptin 1/2 (AP.6) is also recommended for detection of α-Adaptin 1 and α-Adaptin 2, as well as an alternatively spliced isoform of α-Adaptin 1 found in neurons in additional species, including bovine.

Suitable for use as control antibody for α-Adaptin 1/2 siRNA (h): sc-29610, α-Adaptin 1/2 siRNA (m): sc-43506, α-Adaptin 1/2 shRNA Plasmid (h): sc-29610-SH, α-Adaptin 1/2 shRNA Plasmid (m): sc-43506-SH, α-Adaptin 1/2 shRNA (h) Lentiviral Particles: sc-29610-V and α-Adaptin 1/2 shRNA (m) Lentiviral Particles: sc-43506-V.

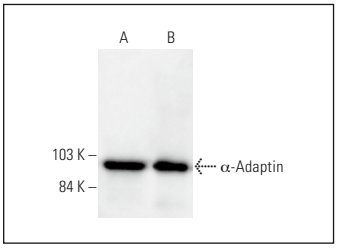
Molecular Weight of α-Adaptin 1/2: 100 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, NIH/3T3 whole cell lysate: sc-2210 or mouse liver extract: sc-2256.

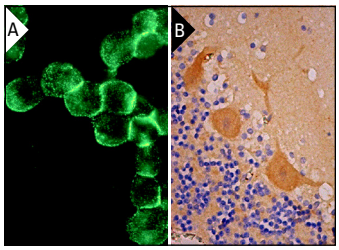
STORAGE

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

DATA



Western Blot analysis of α-Adaptin expression in Hep G2 whole cell (**A**) lysate immunoprecipitated with α-Adaptin (AP.6): sc-32284 (**B**) and detected with α-Adaptin (C-8): sc-17771 (**A**,**B**).



α-Adaptin (AP.6): sc-32284. Immunofluorescence staining of methanol-fixed NIH/3T3 cells showing membrane localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human cerebellum tissue showing cytoplasmic staining of Purkinje cells and cells in molecular layer (**B**).

SELECT PRODUCT CITATIONS

1. Chetrit, D., et al. 2009. Dab2 regulates clathrin assembly and cell spreading. Biochem. J. 418: 701-715.
2. Capuano, C., et al. 2012. PIP2-dependent regulation of Munc13-4 endocytic recycling: impact on the cytolytic secretory pathway. Blood 119: 2252-2262.
3. Matsuoka, H., et al. 2013. Nerve growth factor-induced endocytosis of TWIK-related acid-sensitive K^+ 1 channels in adrenal medullary cells and PC12 cells. Pflugers Arch. 465: 1051-1064.
4. Matsuoka, H. and Inoue, M. 2017. Molecular mechanism for muscarinic M_1 receptor-mediated endocytosis of TWIK-related acid-sensitive K^+ 1 channels in rat adrenal medullary cells. J. Physiol. 595: 6851-6867.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

CONJUGATES

See **α-Adaptin 1/2 (C-8): sc-17771** for α-Adaptin 1/2 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.