SANTA CRUZ BIOTECHNOLOGY, INC.

α-Adaptin 1/2 (100/2): sc-58215

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 β_2-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. Robinson, M.S. 1989. Cloning of cDNAs encoding two related 100 kDa coated vesicle proteins (α-Adaptins). J. Cell Biol. 108: 833-842.
2. 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.
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.

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 (100/2) is a mouse monoclonal antibody raised against AP2 polypeptides from brain tissue homogenate of bovine origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

α-Adaptin 1/2 (100/2) is recommended for detection of α-Adaptin 1 and α-Adaptin 2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

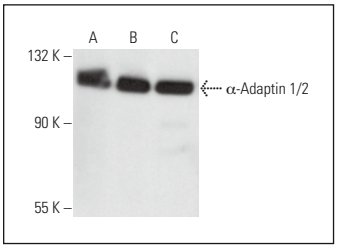
α-Adaptin 1/2 (100/2) is also recommended for detection of α-Adaptin 1 and α-Adaptin 2 in additional species, including bovine.

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.

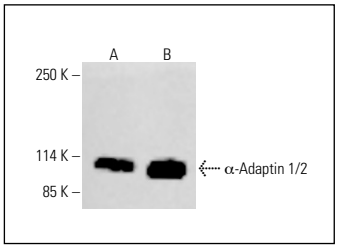
Molecular Weight of α-Adaptin 1/2: 100 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, Hep G2 cell lysate: sc-2227 or c4 whole cell lysate: sc-364186.

DATA



α-Adaptin 1/2 (100/2): sc-58215. Western blot analysis of α-Adaptin 1/2 expression in Hep G2 (**A**), NIH/3T3 (**B**) and C4 (**C**) whole cell lysates.



α-Adaptin 1/2 (100/2): sc-58215. Western blot analysis of α-Adaptin 1/2 expression in HeLa (**A**) and K-562 (**B**) whole cell lysates. Detection reagent used: m-IgG_{2a} BP-HRP: sc-542731.

SELECT PRODUCT CITATIONS

1. Burtey, A., et al. 2007. The conserved isoleucine-valine-phenylalanine motif couples activation state and endocytic functions of β-arrestins. Traffic 8: 914-931.
2. Epa, A.P., et al. 2015. Normal human lung epithelial cells inhibit transforming growth factor-β induced myofibroblast differentiation via prostaglandin E2. PLoS ONE 10: e0135266.

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.