SANTA CRUZ BIOTECHNOLOGY, INC.

α-Adaptin 1/2 (C-8): sc-17771

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 B2, Ap2a2 (mouse) mapping to 7 F5.

SOURCE

α-Adaptin 1/2 (C-8) is a mouse monoclonal antibody raised against amino acids 678-977 of α-Adaptin 2 of mouse 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.

α-Adaptin 1/2 (C-8) is available conjugated to agarose (sc-17771 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-17771 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-17771 PE), fluorescein (sc-17771 FITC), Alexa Fluor® 488 (sc-17771 AF488), Alexa Fluor® 546 (sc-17771 AF546), Alexa Fluor® 594 (sc-17771 AF594) or Alexa Fluor® 647 (sc-17771 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-17771 AF680) or Alexa Fluor® 790 (sc-17771 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

α-Adaptin 1/2 (C-8) 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), 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).

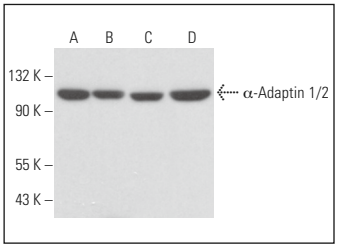
Suitable for use as control antibody for α-Adaptin 1/2 siRNA (h): sc-29610, α-Adaptin 1/2 siRNA (m): sc-43506, α-Adaptin 1/2 shRNA Plasmid (h): sc-29610-SH, α-Adaptin 1/2 shRNA Plasmid (m): sc-43506-SH, α-Adaptin 1/2 shRNA (h) Lentiviral Particles: sc-29610-V and α-Adaptin 1/2 shRNA (m) Lentiviral Particles: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

Molecular Weight of α-Adaptin: 100 kDa.

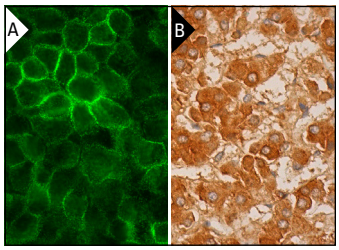
STORAGE

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

DATA



α-Adaptin 1/2 (C-8): sc-17771. Western blot analysis of α-Adaptin 1/2 expression in Hep G2 (**A**), Caki-1 (**B**), c4 (**C**) and MDA-MB-231 (**D**) whole cell lysates.



α-Adaptin 1/2 (C-8): sc-17771. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human adrenal gland tissue showing cytoplasmic staining of glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. Hinrichsen, L., et al. 2003. Effect of Clathrin heavy chain- and α-Adaptin-specific small inhibitory RNAs on endocytic accessory proteins and receptor trafficking in HeLa cells. J. Biol. Chem. 278: 45160-45170.
2. Devadas, D., et al. 2014. Herpes simplex virus internalization into epithelial cells requires Na^+/H^+ exchangers and p21-activated kinases but neither clathrin- nor caveolin-mediated endocytosis. J. Virol. 88: 13378-13395.
3. Umasankar, P.K., et al. 2015. A clathrin coat assembly role for the muniscin protein central linker revealed by TALEN-mediated gene editing. Elife 6: 28238-28256.
4. McLelland, G.L., et al. 2016. Syntaxin-17 delivers PINK1/parkin-dependent mitochondrial vesicles to the endolysosomal system. J. Cell Biol. 214: 275-291.
5. Contu, V.R., et al. 2017. Lysosomal targeting of SIDT2 via multiple YxxΦ motifs is required for SIDT2 function in the process of RNautophagy. J. Cell Sci. 130: 2843-2853.
6. Yoneyama, Y., et al. 2018. IRS-1 acts as an endocytic regulator of IGF-I receptor to facilitate sustained IGF signaling. Elife 7: e32893.
7. Gulbranson, D.R., et al. 2019. AAGAB controls AP2 adaptor assembly in clathrin-mediated endocytosis. Dev. Cell 50: 436-446.e5.
8. Munthe, E., et al. 2020. Clathrin regulates Wnt/β-catenin signaling by affecting Golgi to plasma membrane transport of transmembrane proteins. J. Cell Sci. 133: jcs244467.
9. Meng, D., et al. 2021. ArfGAP1 inhibits mTORC1 lysosomal localization and activation. EMBO J. 40: e106412.

RESEARCH USE

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