

APPL1 (A-1): sc-271901

BACKGROUND

The APPL family of proteins are involved in linking, trafficking and signaling downstream of tyrosine kinase receptors. APPL1, also designated adaptor protein containing pH domain, PTB domain and leucine zipper motif 1; APPL or DCC interacting protein 13 α (DIP13 α) and APPL2, also designated adaptor protein containing pH domain, PTB domain and leucine zipper motif 2 or DCC interacting protein 13 β (DIP13 β), are involved in the coupling of epidermal growth factor (EGF) signaling and chromatin remodeling in the nucleus. They associate with GTPase Rab 5 and are released from the plasma membrane and translocated to the nucleus. In the nucleus, APPL1 and APPL2 associate with NuRD/MeCP1 and are essential for cell growth and proliferation. APPL1 is also involved in Akt regulation, binding the kinase domains of Akt1 and Akt2; neurotrophin receptor signaling via association with GIPC and Trk A; and it associates with follicle-stimulating hormone receptor (FSHR) and the catalytic subunit of type 1A PI 3-kinase. APPL1 is highly expressed in heart, ovary, skeletal muscle and pancreas. APPL1 shares 54% homology with APPL2.

CHROMOSOMAL LOCATION

Genetic locus: APPL1 (human) mapping to 3p14.3; Appl1 (mouse) mapping to 14 A3.

SOURCE

APPL1 (A-1) is a mouse monoclonal antibody raised against amino acids 614-709 mapping at the C-terminus of APPL1 of human origin.

PRODUCT

Each vial contains 200 μ g IgG $_1$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPL1 (A-1) is available conjugated to agarose (sc-271901 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271901 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271901 PE), fluorescein (sc-271901 FITC), Alexa Fluor® 488 (sc-271901 AF488), Alexa Fluor® 546 (sc-271901 AF546), Alexa Fluor® 594 (sc-271901 AF594) or Alexa Fluor® 647 (sc-271901 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271901 AF680) or Alexa Fluor® 790 (sc-271901 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

APPL1 (A-1) is recommended for detection of APPL1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ 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).

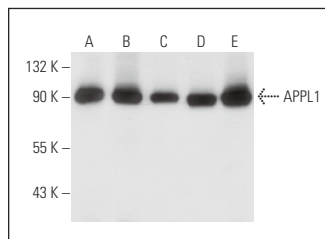
Suitable for use as control antibody for APPL1 siRNA (h): sc-61980, APPL1 siRNA (m): sc-61981, APPL1 shRNA Plasmid (h): sc-61980-SH, APPL1 shRNA Plasmid (m): sc-61981-SH, APPL1 shRNA (h) Lentiviral Particles: sc-61980-V and APPL1 shRNA (m) Lentiviral Particles: sc-61981-V.

Molecular Weight of APPL1: 100 kDa.

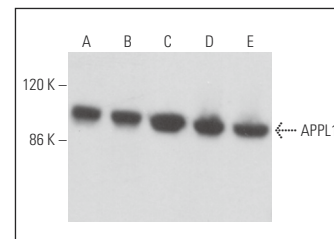
STORAGE

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

DATA



APPL1 (A-1): sc-271901. Western blot analysis of APPL1 expression in HeLa (A), ES-2 (B), Caki-1 (C), 3T3-L1 (D) and PC-12 (E) whole cell lysates.



APPL1 (A-1): sc-271901. Western blot analysis of APPL1 expression in A-673 (A), A10 (B), MDA-MB-231 (C), NIH/3T3 (D) and F9 (E) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Liu, Y., et al. 2017. APPL1 promotes the migration of gastric cancer cells by regulating Akt2 phosphorylation. *Int. J. Oncol.* 51: 1343-1351.
2. Zhao, L., et al. 2018. Recombinant CTRP9 administration attenuates neuroinflammation via activating adiponectin receptor 1 after intracerebral hemorrhage in mice. *J. Neuroinflammation* 15: 215.
3. Kim, S.T., et al. 2018. The N-recogin UBR4 of the N-end rule pathway is targeted to and required for the biogenesis of the early endosome. *J. Cell Sci.* 131: jcs217646.
4. Jia, R., et al. 2019. Negative regulation of autophagy by UBA6-BIRC6-mediated ubiquitination of LC3. *Elife* 8: e50034.
5. Choi, S.K., et al. 2020. AdipoRon, adiponectin receptor agonist, improves vascular function in the mesenteric arteries of type 2 diabetic mice. *PLoS ONE* 15: e0230227.
6. Xu, N., et al. 2022. Adiponectin ameliorates GMH-induced brain injury by regulating microglia M1/M2 polarization via AdipoR1/APPL1/AMPK/PPAR γ signaling pathway in neonatal rats. *Front. Immunol.* 13: 873382.
7. Zhang, Y., et al. 2022. Impairment of APPL1/Myoferlin facilitates adipogenic differentiation of mesenchymal stem cells by blocking autophagy flux in osteoporosis. *Cell. Mol. Life Sci.* 79: 488.

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.

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