

APPL1 (H-96): sc-67402

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.

REFERENCES

1. Miaczynska, M., et al. 2004. APPL proteins link Rab 5 to nuclear signal transduction via an endosomal compartment. *Cell* 116: 445-456.
2. Nechamen, C.A., et al. 2004. Human follicle-stimulating hormone (FSH) receptor interacts with the adaptor protein APPL1 in HEK 293 cells: potential involvement of the PI 3-K pathway in FSH signaling. *Biol. Reprod.* 71: 629-636.
3. Du, K., et al. 2005. Regulation of the Akt kinase by interacting proteins. *Oncogene* 24: 7401-7409.
4. Mao, X., et al. 2006. APPL1 binds to adiponectin receptors and mediates adiponectin signalling and function. *Nat. Cell Biol.* 8: 516-523.
5. Nechamen, C.A., et al. 2006. APPL1, APPL2, Akt2 and FOXO1A interact with FSHR in a potential signaling complex. *Mol. Cell. Endocrinol.* 260-262: 93-99.

CHROMOSOMAL LOCATION

Genetic locus: APPL1 (human) mapping to 3p14.3; App1 (mouse) mapping to 14 A3.

SOURCE

APPL1 (H-96) is a rabbit polyclonal 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 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.

RESEARCH USE

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

APPLICATIONS

APPL1 (H-96) is recommended for detection of APPL1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

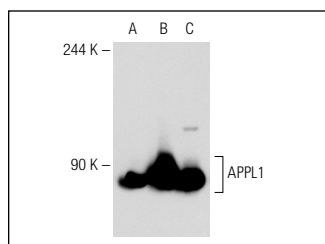
APPL1 (H-96) is also recommended for detection of APPL1 in additional species, including equine, canine, bovine, porcine and avian.

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.

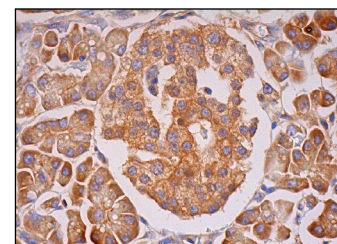
Molecular Weight of APPL1: 100 kDa.

Positive Controls: APPL1 (m): 293T Lysate: sc-118501, HeLa whole cell lysate: sc-2200 or A-673 cell lysate: sc-2414.

DATA



APPL1 (H-96): sc-67402. Western blot analysis of APPL1 expression in non-transfected 293T: sc-117752 (A), mouse APPL1 transfected 293T: sc-118501 (B) and HeLa (C) whole cell lysates.



APPL1 (H-96): sc-67402. Immunoperoxidase staining of formalin fixed, paraffin-embedded human pancreas tissue showing cytoplasmic and membrane staining of exocrine glandular cells and Islets of Langerhans.

SELECT PRODUCT CITATIONS

1. Tan, Y., et al. 2009. App1 is dispensable for mouse development, and loss of App1 has growth factor-selective effects on Akt signaling in murine embryonic fibroblasts. *J. Biol. Chem.* 285: 6377-6389.
2. Wang, Y.B., et al. 2012. Adaptor protein APPL1 couples synaptic NMDA receptor with neuronal pro-survival phosphatidylinositol 3-kinase/Akt pathway. *J. Neurosci.* 32: 11919-11929.

PROTOCOLS

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



Try **APPL1 (A-1): sc-271901** or **APPL1 (H-3): sc-271909**, our highly recommended monoclonal alternatives to APPL1 (H-96).