

# APPL2 (E-1): sc-271084

## 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 $\alpha$  (DIP13 $\alpha$ ), and APPL2, also designated adaptor protein containing pH domain, PTB domain and leucine zipper motif 2; or DCC interacting protein 13 $\beta$  (DIP13 $\beta$ ), 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. APPL2 also associates with follicle stimulating hormone receptor (FSHR). APPL2 is highly expressed in heart, brain, skeletal muscle and kidney. APPL2 shares 54% homology with APPL1.

## 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. Habermann, B. 2004. The BAR-domain family of proteins: a case of bending and binding? *EMBO Rep.* 5: 250-255.
4. Mao, X., et al. 2006. APPL1 binds to adiponectin receptors and mediates adiponectin signalling and function. *Nat. Cell Biol.* 8: 516-523.
5. Lo, H.W., et al. 2006. Nuclear-cytoplasmic transport of EGFR involves receptor endocytosis, Importin  $\beta$ 1 and CRM1. *J. Cell. Biochem.* 98: 1570-1583.
6. Lin, D.C., et al. 2006. APPL1 associates with TrkA and GIPC1 and is required for nerve growth factor-mediated signal transduction. *Mol. Cell. Biol.* 26: 8928-8941.

## CHROMOSOMAL LOCATION

Genetic locus: APPL2 (human) mapping to 12q23.3, Appl2 (mouse) mapping to 10 C1.

## SOURCE

APPL2 (E-1) is a mouse monoclonal antibody raised against amino acids 605-664 mapping at the C-terminus of APPL2 of human origin.

## PRODUCT

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

## STORAGE

Store at 4 $^{\circ}$  C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## APPLICATIONS

APPL2 (E-1) is recommended for detection of APPL2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ 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).

Suitable for use as control antibody for APPL2 siRNA (h): sc-61982, APPL2 siRNA (m): sc-61983, APPL2 shRNA Plasmid (h): sc-61982-SH, APPL2 shRNA Plasmid (m): sc-61983-SH, APPL2 shRNA (h) Lentiviral Particles: sc-61982-V and APPL2 shRNA (m) Lentiviral Particles: sc-61983-V.

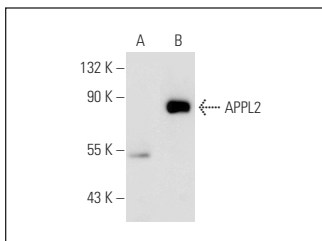
Molecular Weight of APPL2: 80 kDa.

Positive Controls: Hs 181 Tes whole cell lysate: sc-364779 or APPL2 (m): 293T Lysate: sc-118502.

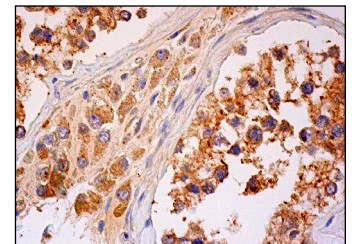
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>TM</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgG $\kappa$  BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

## DATA



APPL2 (E-1): sc-271084. Western blot analysis of APPL2 expression in non-transfected: sc-117752 (A) and mouse APPL2 transfected: sc-118502 (B) 293T whole cell lysates.



APPL2 (E-1): sc-271084. Immunoperoxidase staining of formalin fixed, paraffin-embedded human testis tissue showing cytoplasmic staining of cells in seminiferous ducts and Leydig cells.

## SELECT PRODUCT CITATIONS

1. 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.

## RESEARCH USE

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