

#3276 Store at -20°C

APPL1 Antibody



✓ 100 µl
(10 western blots)

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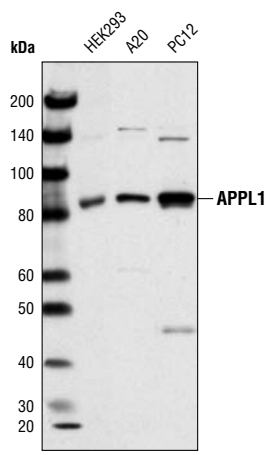
This product is intended for research purposes only. This product is not intended to be used for therapeutic or diagnostic purposes in humans or animals.

Applications	Species Cross-Reactivity*	Molecular Wt.	Source
W Endogenous	H, M, R	82 kDa	Rabbit**

Background: The APPL1 multidomain adaptor protein is a BAR-domain protein family member that is involved in membrane trafficking within a number of signal transduction pathways (1). The N-terminal BAR domain mediates the formation of crescent-shaped APPL1 homodimers (or APPL1 and APPL2 heterodimers) that are important in lipid binding and membrane curvature sensing (1). The PH domain of APPL1 is required for binding of the adaptor protein to Rab5 GTPase (2). In response to extracellular stimuli, Rab5 GTP hydrolysis releases APPL1 from the endosome and allows translocation of APPL1 to the nucleus where it joins a protein complex that controls chromatin remodeling and gene expression (3). The C-terminal PTB domain of APPL1 enables an interaction between APPL1 and the TrkA neurotrophin receptor. An association between these two proteins and the TrkA-interacting protein GIPC1 within endosomes is required for nerve growth factor (NGF) mediated signaling (4). APPL1 also binds follicle-stimulating hormone (FSH) receptors, which may provide a relay of FSH signaling to the PI3K/Akt pathway (5). The APPL1 adaptor protein is implicated in insulin signaling, as interaction between APPL1 and Akt2 is required for insulin-stimulated translocation of GLUT4 receptor proteins. Both induced overexpression and knockdown of APPL1 inhibit insulin-stimulated GLUT4 translocation (6). APPL1 binds the adiponectin receptor and acts as a downstream effector in the adiponectin pathway that mediates NO production (7,8). APPL1 interacts with DCC (deleted in colorectal cancer) protein and may play a role in DCC-induced apoptosis (9).

Specificity/Sensitivity: APPL1 Antibody detects endogenous levels of total APPL1 protein.

Source/Purification: Polyclonal antibodies are produced by immunizing rabbits with a synthetic peptide (KLH-coupled) corresponding residue surrounding Ala672 of human APPL1. Antibodies are purified by peptide affinity chromatography.



Western blot analysis of extracts from HEK293, A20 and PC12 cells using APPL1 Antibody.

Background References:

- (1) Habermann, B. (2004) *EMBO Rep* 5, 250–5.
- (2) Zhu, G. et al. (2007) *EMBO J* 26, 3484–93.
- (3) Miaczynska, M. et al. (2004) *Cell* 116, 445–56.
- (4) Lin, D.C. et al. (2006) *Mol Cell Biol* 26, 8928–41.
- (5) Nechamen, C.A. et al. (2004) *Biol Reprod* 71, 629–36.
- (6) Saito, T. et al. (2007) *J Biol Chem* 282, 32280–7.
- (7) Mao, X. et al. (2006) *Nat Cell Biol* 8, 516–23.
- (8) Cheng, K.K. et al. (2007) *Diabetes* 56, 1387–94.
- (9) Liu, J. et al. (2002) *J Biol Chem* 277, 26281–5.

Entrez-Gene ID #26060
Swiss-Prot Acc. #Q9UKG1

Storage: Supplied in 10 mM HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at -20°C. Do not aliquot the antibody.

*Species cross-reactivity is determined by western blot.

**Anti-rabbit secondary antibodies must be used to detect this antibody.

Recommended Antibody Dilutions:

Western blotting 1:1000

For application specific protocols please see the web page for this product at www.cellsignal.com.

Please visit www.cellsignal.com for a complete listing of recommended companion products.

IMPORTANT: For Western blots, incubate membrane with diluted antibody in 5% w/v nonfat dry milk, 1X TBS, 0.1% Tween-20 at 4°C with gentle shaking, overnight.

Applications Key: W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide
Species Cross-Reactivity Key: H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken Dm—D. melanogaster X—Xenopus Z—zebrafish B—bovine
 Dg—dog Pg—pig Sc—S. cerevisiae Ce—C. elegans Hr—horse All—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.