

**APPL1 (D83H4) XP<sup>®</sup> Rabbit mAb**

**Orders:** 877-616-CELL (2355)  
orders@cellsignal.com

**Support:** 877-678-TECH (8324)

**Web:** info@cellsignal.com  
cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

**For Research Use Only. Not for Use in Diagnostic Procedures.**

<b>Applications:</b> W, IP, IF-IC	<b>Reactivity:</b> H M R Mk	<b>Sensitivity:</b> Endogenous	<b>MW (kDa):</b> 82	<b>Source/Isotype:</b> Rabbit IgG	<b>UniProt ID:</b> #Q9UKG1	<b>Entrez-Gene Id:</b> 26060
--------------------------------------	--------------------------------	-----------------------------------	------------------------	--------------------------------------	-------------------------------	---------------------------------

**Product Usage Information****Application**

Western Blotting  
Immunoprecipitation  
Immunofluorescence (Immunocytochemistry)

**Dilution**

1:2000  
1:100  
1:100 - 1:400

**Storage**

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

**Specificity/Sensitivity**

APPL1 (D83H4) XP<sup>®</sup> Rabbit mAb detects endogenous levels of total APPL1 protein.

**Source / Purification**

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Thr426 of human APPL1.

**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 amino-terminal BAR domain mediates the formation of crescent-shaped APPL1 homodimers (or APPL1 and APPL2 heterodimers) important to 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 carboxy-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 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 to mediate NO production (7,8). APPL1 interacts with DCC (deleted in colorectal cancer) protein and may play a role in DCC-induced apoptosis (9).

**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.
10. Hennig, J. et al. (2014) *Cell Death Dis* 5, e1199.

**Species Reactivity**

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

**Western Blot Buffer**

**IMPORTANT:** For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

**Applications Key**

**W:** Western Blotting **IP:** Immunoprecipitation **IF-IC:** Immunofluorescence (Immunocytochemistry)

**Cross-Reactivity Key**

**H:** Human **M:** Mouse **R:** Rat **Mk:** Monkey

**Trademarks and Patents**

Cell Signaling Technology is a trademark of Cell Signaling Technology, Inc.

XP is a registered trademark of Cell Signaling Technology, Inc.

All other trademarks are the property of their respective owners. Visit [cellsignal.com/trademarks](http://cellsignal.com/trademarks) for more information.

## Limited Uses

Except as otherwise expressly agreed in a writing signed by a legally authorized representative of CST, the following terms apply to Products provided by CST, its affiliates or its distributors. Any Customer's terms and conditions that are in addition to, or different from, those contained herein, unless separately accepted in writing by a legally authorized representative of CST, are rejected and are of no force or effect.

Products are labeled with For Research Use Only or a similar labeling statement and have not been approved, cleared, or licensed by the FDA or other regulatory foreign or domestic entity, for any purpose. Customer shall not use any Product for any diagnostic or therapeutic purpose, or otherwise in any manner that conflicts with its labeling statement. Products sold or licensed by CST are provided for Customer as the end-user and solely for research and development uses. Any use of Product for diagnostic, prophylactic or therapeutic purposes, or any purchase of Product for resale (alone or as a component) or other commercial purpose, requires a separate license from CST. Customer shall (a) not sell, license, loan, donate or otherwise transfer or make available any Product to any third party, whether alone or in combination with other materials, or use the Products to manufacture any commercial products, (b) not copy, modify, reverse engineer, decompile, disassemble or otherwise attempt to discover the underlying structure or technology of the Products, or use the Products for the purpose of developing any products or services that would compete with CST products or services, (c) not alter or remove from the Products any trademarks, trade names, logos, patent or copyright notices or markings, (d) use the Products solely in accordance with CST Product Terms of Sale and any applicable documentation, and (e) comply with any license, terms of service or similar agreement with respect to any third party products or services used by Customer in connection with the Products.