

#9385 Store at -20C

Rab Family Antibody Sampler Kit



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

1 Kit (5 x 20 microliters)

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

Product Includes	Product #	Quantity	Mol. Wt	Isotype/Source
Rab4 Antibody	2167	20 µl	25 kDa	Rabbit
Rab5A (E6N8S) Mouse mAb	46449	20 µl	25 kDa	Mouse IgG1
Rab7 (D95F2) XP [®] Rabbit mAb	9367	20 µl	23 kDa	Rabbit IgG
Rab9A (D52G8) XP [®] Rabbit mAb	5118	20 µl	23 kDa	Rabbit IgG
Rab11 (D4F5) XP [®] Rabbit mAb	5589	20 µl	25 kDa	Rabbit IgG
Anti-rabbit IgG, HRP-linked Antibody	7074	100 µl		Goat
Anti-mouse IgG, HRP-linked Antibody	7076	100 µl		Horse

Please visit cellsignal.com for individual component applications, species cross-reactivity, dilutions, protocols, and additional product information.

Description

The Rab Family Antibody Sampler Kit provides an economical means to evaluate the presence and status of Rab proteins in cells. This kit provides enough primary and secondary antibodies to perform two Western blot experiments per primary antibody.

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.

Background

Rab family proteins are GTPases and members of the Ras superfamily of monomeric G proteins. These membrane-associated proteins are involved in many aspects of vesicle-mediated transport, taking part in the initial vesicle formation, transport of vesicles along the cytoskeleton, and eventual fusion of vesicle and target membranes. Rab4 is localized at early endosomes/recycling endosomes and functions as a key regulator for sorting/recycling of membrane and proteins (1,2). Both Rab4A and Rab4B isoforms are localized to similar cellular compartments and are believed to have similar functions (4). Rab4 interacts with several Rab4 effectors in a complex on a special endosome site to promote membrane/protein recycling (1,3). Rab5 is localized to the plasma membrane and early endosome and functions as a key regulator of vesicle trafficking during early endocytosis (1). The conformational change between Rab5-GTP and Rab5-GDP is essential for its biological function as a rate-limiting regulator at multiple steps during endocytosis (1,5). Similar to Rab4, Rab5 also interacts with specific Rab5 effectors on a specialized endosomal Rab domain to promote recycling between endosome and the plasma membrane (1,5,6). Both Rab7 and Rab9 are located in late endosomes but exert different functions. Rab7 associates with the RIPL effector protein to control membrane trafficking from early to late endosome and to lysosomes (7,8). Rab7 also helps to regulate growth receptor endocytic trafficking and degradation, and maturation of phagosome and autophagic vacuoles (8-11). Rab9 interacts with its effector proteins p40 and TIP47 (12,13) to promote the MPR (mannose 6-phosphate receptor)-associated lysosomal enzyme transport between late endosomes and the trans Golgi network (14,15). Rab11 (isoforms Rab11a and Rab11b) functions as a key regulator in the recycling of perinuclear, plasma membrane and Golgi compartment endosomes (16,17). Despite some overlap, distinct differences exist between Rab11a and Rab11b in both their cellular distribution and functional roles. Rab11a is ubiquitously expressed while Rab11b is found mainly in the heart and brain (18,19). Like other Rab proteins, Rab11 functions when associated with Rab11 family interacting proteins (FIPs). The three distinct classes of Rab11 FIPs all share a conserved carboxy-terminal Rab-binding domain that allows Rab-FIP protein interaction. When bound together, these proteins are thought to regulate membrane-associated protein sorting (20,21).

Background References

1. Zerial, M. and McBride, H. (2001) *Nat Rev Mol Cell Biol* 2, 107-17.
2. van der Sluijs, P. et al. (1992) *Cell* 70, 729-40.
3. Deneka, M. et al. (2003) *EMBO J* 22, 2645-57.
4. Krawczyk, M. et al. (2007) *Nucleic Acids Res* 35, 595-605.
5. van der Bliek, A.M. (2005) *Nat Cell Biol* 7, 548-50.
6. Haas, A.K. et al. (2005) *Nat Cell Biol* 7, 887-93.
7. Feng, Y. et al. (1995) *J Cell Biol* 131, 1435-52.
8. Méresse, S. et al. (1995) *J Cell Sci* 108 (Pt 11), 3349-58.
9. Ceresa, B.P. and Bahr, S.J. (2006) *J Biol Chem* 281, 1099-106.
10. Jäger, S. et al. (2004) *J Cell Sci* 117, 4837-48.
11. Méresse, S. et al. (1999) *EMBO J* 18, 4394-403.

12. Díaz, E. et al. (1997) *J Cell Biol* 138, 283-90.
 13. Barbero, P. et al. (2002) *J Cell Biol* 156, 511-8.
 14. Lombardi, D. et al. (1993) *EMBO J* 12, 677-82.
 15. Riederer, M.A. et al. (1994) *J Cell Biol* 125, 573-82.
 16. Ullrich, O. et al. (1996) *J Cell Biol* 135, 913-24.
 17. Chen, W. et al. (1998) *Mol Biol Cell* 9, 3241-57.
 18. Lapierre, L.A. et al. (2003) *Exp Cell Res* 290, 322-31.
 19. Khvotchev, M.V. et al. (2003) *J Neurosci* 23, 10531-9.
 20. Junutula, J.R. et al. (2004) *J Biol Chem* 279, 33430-7.
 21. Hales, C.M. et al. (2001) *J Biol Chem* 276, 39067-75.
-

Trademarks and Patents

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

U.S. Patent No. 7,429,487, foreign equivalents, and child patents deriving therefrom.

All other trademarks are the property of their respective owners. Visit 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.

Orders: 877-616-CELL (2355) • orders@cellsignal.com • Support: 877-678-TECH (8324) • info@cellsignal.com • Web: cellsignal.com
For Research Use Only. Not for Use in Diagnostic Procedures.