Revision 1

Store at -20C

#14716

Phospho-Sin1 (Thr86) (D4U9L) Rabbit mAb

Cell Signaling TECHNOLOGY®

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.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IP	H M	Endogenous	78, 74	Rabbit IgG	#Q9BPZ7	79109

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	1:50

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

Phospho-Sin1 (Thr86) (D4U9L) Rabbit mAb recognizes endogenous levels of Sin1 protein only when phosphorylated at Thr86.

Species predicted to react based on 100% sequence homology

Rat

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding phosphorylated Thr86 of human Sin1 protein.

Background

Cell growth is a fundamental biological process whereby cells accumulate mass and increase in size. The mammalian TOR (mTOR) pathway regulates growth by coordinating energy and nutrient signals with growth factor-derived signals (1). mTOR is a large protein kinase that is a component of two different complexes. The mTOR complex 1 (mTORC1), a target of rapamycin, contains mTOR, GβL, and raptor. mTORC2, insensitive to rapamycin, includes mTOR, GβL, Sin1, and rictor (1). The mTORC2 complex phosphorylates Ser473 of Akt/PKB *in vitro* (2). This phosphorylation is essential for full Akt/PKB activation. Furthermore, rictor siRNA knockdown inhibits Ser473 phosphorylation in 3T3-L1 adipocytes (3). mTORC2 has also been shown to phosphorylate the rapamycin-resistant mutants of S6K1, another effector of mTOR (4). In addition, phosphorylation of Sin1 at Thr86 by Akt/PKB was shown to regulate the activity of mTORC2 in adipocytes upon stimulation by growth factors (5).

Background References

1. Sarbassov, D.D. et al. (2004) *Curr Biol* 14, 1296-302.
2. Sarbassov, D.D. et al. (2005) *Science* 307, 1098-101.
3. Hresko, R.C. and Mueckler, M. (2005) *J Biol Chem* 280, 40406-16.
4. Ali, S.M. and Sabatini, D.M. (2005) *J Biol Chem* 280, 19445-8.
5. Humphrey, S.J. et al. (2013) *Cell Metab* 17, 1009-20.

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 nonfat dry milk, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting **IP:** Immunoprecipitation

Cross-Reactivity Key

H: Human **M:** Mouse

Trademarks and Patents

Limited Uses

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.