

Phospho-Sin1 (Thr86) (D4U9L) Rabbit mAb

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

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

Western Blotting
Immunoprecipitation

Dilution

1:1000
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

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