Store at -20°C

PhosphoPlus® Rictor (Thr1135) Antibody Duet

#57295

Cell Signaling TECHNOLOGY®

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Entrez-Gene ID #253260
UniProt ID #Q6R327

New 05/18

For Research Use Only. Not For Use In Diagnostic Procedures.

Products Included	Product #	Quantity	Mol. Wt.	Isotype
Phospho-Rictor (Thr1135) (D30A3) Rabbit mAb	3806	100 µl	200 kDa	Rabbit IgG
Rictor (53A2) Rabbit mAb	2114	100 µl	200 kDa	Rabbit IgG

See www.cellsignal.com for individual component applications, species cross-reactivity, dilutions and additional application protocols.

Description: PhosphoPlus® Duets from Cell Signaling Technology (CST) provide a means to assess protein activation status. Each Duet contains an activation-state and total protein antibody to your target of interest. These antibodies have been selected from CST's product offering based upon superior performance in specified applications.

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 with two different complexes. One complex contains mTOR, GβL and raptor, which is a target of rapamycin. The other complex, insensitive to rapamycin, includes mTOR, GβL, Sin1, and rictor (1). The mTOR-rictor complex phosphorylates Ser473 of Akt/PKB *in vitro* (2). This phosphorylation is essential for full Akt/PKB activation. Furthermore, an siRNA knockdown of rictor inhibits Ser473 phosphorylation in 3T3-L1 adipocytes (3). This complex has also been shown to phosphorylate the rapamycin-resistant mutants of S6K1, another effector of mTOR (4).Phosphorylation of Thr1135 on rictor was identified at Cell Signaling Technology (CST) using PhosphoScan®, CST's LC-MS/MS platform for phosphorylation site discovery (5). Additional research indicates that rictor is phosphorylated at Thr1135 by p70 S6K, which negatively regulates mTORC2 protein complex as part of a negative feedback mechanism controlling Akt activity (6-8).

Specificity/Sensitivity: Rictor (53A2) Rabbit mAb detects endogenous levels of total Rictor protein. Phospho-Rictor (Thr1135) (D30A3) Rabbit mAb detects endogenous levels of Rictor protein only when phosphorylated at Thr1135.

Source/Purification: Monoclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to the sequence surrounding Gln1681 of human Rictor and a synthetic phosphopeptide corresponding to the sequence surrounding Thr1135 of human Rictor protein.

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 References:

(1) Sarbassov, D.D. et al. (2004) *Curr. Biol.* 14, 1296-1302.

(2) Sarbassov, D.D. et al. (2005) *Science* 307, 1098-1101.

(3) Hresko, R.C. and Mueckler, M. (2005) *J. Biol. Chem.* 280, 40406-40416.

(4) Ali, S.M. and Sabatini, D.M. (2005) *J. Biol. Chem.* 280, 19445-19448.

(5) Rush, J. et al. (2005) *Nat Biotechnol* 23, 94-101.

(6) Dibble, C.C. et al. (2009) *Mol Cell Biol* 29, 5657-70.

(7) Julien, L.A. et al. (2010) *Mol Cell Biol* 30, 908-21.

(8) Treins, C. et al. (2010) *Oncogene* 29, 1003-16.

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Applications: **W**—Western **IP**—Immunoprecipitation **IHC**—Immunohistochemistry **ChIP**—Chromatin Immunoprecipitation **IF**—Immunofluorescence **F**—Flow cytometry **E-P**—ELISA-Peptide **Species Cross-Reactivity:** **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.