

PRAS40 (D23C7) XP[®] Rabbit mAb

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, W-S, IP, IHC-P	H M R Mk	Endogenous	40	Rabbit IgG	#Q96B36	84335

Product Usage Information**Application**

Western Blotting
Simple Western™
Immunoprecipitation
Immunohistochemistry (Paraffin)

Dilution

1:1000
1:50 - 1:250
1:50
1:800

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.

For a carrier free (BSA and azide free) version of this product see product #37215.

Specificity/Sensitivity

PRAS40 (D23C7) XP[®] Rabbit mAb detects endogenous levels of total PRAS40 protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Pro185 of human PRAS40 protein.

Background

Many growth factors and hormones induce the phosphoinositide 3-kinase signaling pathway, which results in the activation of downstream effector proteins such as the serine/threonine kinase Akt (1,2). One known Akt substrate is a 40 kDa, proline-rich protein (PRAS40) that binds to 14-3-3 proteins (2). PRAS40 also binds mTOR to transduce Akt signals to the mTOR complex. Inhibition of mTOR signaling stimulates PRAS40 binding to mTOR, which in turn inhibits mTOR activity (3). PRAS40 interacts with raptor in mTOR complex 1 (mTORC1) in insulin-deprived cells and inhibits the activation of the mTORC1 pathway mediated by the cell cycle protein Rheb. Phosphorylation of PRAS40 by Akt at Thr246 relieves PRAS40 inhibition of mTORC1 (4). mTORC1 in turn phosphorylates PRAS40 at Ser183 (5).

Background References

1. Cantley, L.C. (2002) *Science* 296, 1655-7.
2. Kovacina, K.S. et al. (2003) *J Biol Chem* 278, 10189-94.
3. Vander Haar, E. et al. (2007) *Nat Cell Biol* 9, 316-23.
4. Sancak, Y. et al. (2007) *Mol Cell* 25, 903-15.
5. Oshiro, N. et al. (2007) *J Biol Chem* 282, 20329-39.

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 **W-S:** Simple Western™ **IP:** Immunoprecipitation **IHC-P:** Immunohistochemistry (Paraffin)

Cross-Reactivity Key

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

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