

PRAS40 Antibody



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	H M R Mk	Endogenous	40	Rabbit	#Q96B36	84335

Product Usage Information

Application

Western Blotting

Dilution

1:1000

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at -20°C. Do not aliquot the antibody.

Specificity/Sensitivity

PRAS40 Antibody detects endogenous levels of total PRAS40 protein.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Gln234 of human PRAS40. Antibodies are purified by peptide affinity chromatography.

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

Cross-Reactivity Key

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

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