

#2610 Store at -20°C

PRAS40 Antibody



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

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source:	UniProt ID:	Entrez-Gene Id:
WB	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 the sequence 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	<ol style="list-style-type: none"> 1. Cantley, L.C. (2002) <i>Science</i> 296, 1655-7. 2. Kovacina, K.S. et al. (2003) <i>J Biol Chem</i> 278, 10189-94. 3. Vander Haar, E. et al. (2007) <i>Nat Cell Biol</i> 9, 316-23. 4. Sancak, Y. et al. (2007) <i>Mol Cell</i> 25, 903-15. 5. Oshiro, N. et al. (2007) <i>J Biol Chem</i> 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	WB: Western Blotting
Cross-Reactivity Key	H: human M: mouse R: rat Hm: hamster Mk: monkey Vir: virus 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 GP: Guinea Pig Rab: rabbit All: all species expected
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