

# PC1/3 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

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W	H M R	Endogenous	70	Rabbit	#P29120	5122

## 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

PC1/3 Antibody recognizes endogenous levels of total PC1/3 protein.

## Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Arg364 of human PC1/3 protein. Antibodies are purified by protein A and peptide affinity chromatography.

## Background

The proprotein convertases (PCs) are enzymes that activate precursor proteins through proteolytic cleavage within the secretory pathway. PCs comprise several enzymes that are basic amino acid-specific proteinases (furin, PC1/3, PC2, PC4, PACE4, PC5/6, and PC7), as well as nonbasic amino acid convertases (S1P and PC9) (1). PCs have a common structure that includes an N-terminal signal peptide for secretory pathway targeting; a pro-domain that is thought to act as an intramolecular chaperone; a catalytic domain containing the active site; a P-domain that contributes to the overall folding of the enzyme by regulating stability, calcium-, and pH-dependence; and a C-terminal domain that interacts with the membrane (2). PCs act in a tissue- and substrate-specific fashion to generate an array of bioactive peptides and proteins from precursors, both in the brain and the periphery (3). Research studies examining the PCSK1 gene (encoding PC1/3) suggest that mutations that cause impaired PC1/3 expression or enzymatic activity contribute to obesity (4).

## Background References

- Scamuffa, N. et al. (2006) *FASEB J* 20, 1954-63.
- Fugère, M. and Day, R. (2005) *Trends Pharmacol Sci* 26, 294-301.
- Seidah, N.G. and Chrétien, M. (1999) *Brain Res* 848, 45-62.
- Creemers, J.W. et al. (2012) *Diabetes* 61, 383-90.

## 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

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