



## p-PAM (Ser 949)-R: sc-22263-R

### BACKGROUND

Peptidylglycine  $\alpha$ -amidating monooxygenase (PAM) catalyzes the two-step formation of bioactive  $\alpha$ -amidated neural and endocrine peptides from their glycine-extended precursors. PAM is a bifunctional protein that contains a 35 kDa peptidyl-glycine  $\alpha$ -hydroxylating monooxygenase and a 42 kDa peptidyl- $\alpha$ -hydroxyglycine  $\alpha$ -amidating lyase catalytic domains. Tissue-specific alternative splicing and endoproteolysis generate both soluble and integral membrane mono- and bifunctional PAM proteins. PAM is highly expressed in ovary, testis, lung, heart septum, anterior pituitary and hypothalamus, and to a lesser extent in liver, ventricle, atrium and neuro-intermediate lobe. The 3'-untranslated region of PAM mRNA has a novel 20-nucleotide CIS element, which is able to interact with cellular cytosolic protease-sensitive factors. The cytosolic domain of the PAM protein contains multiple signals determining its subcellular localization. PAM interacts with three related cytosolic proteins, designated P-CIPs (PAM cytosolic interactor proteins). P-CIP2 is a protein kinase that phosphorylates PAM at Serine 949. Phosphorylation of PAM in the cytosolic domain of PAM plays a critical role in the trafficking of PAM. PAM in rat sciatic nerves is proteolytically processed during the axonal transport of secretion granules.

### REFERENCES

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- Takasugi, H., et al. 1996. Distribution and processing of peptidylglycine  $\alpha$ -mediating monooxygenase activity in rat dorsal root ganglia and sciatic nerves. *Neurochem. Int.* 29: 397-403.
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- Fraboulet, S., et al. 1998. Identification of a novel CIS-element in the 3'-untranslated region of mammalian peptidylglycine  $\alpha$ -amidating monooxygenase messenger ribonucleic acid. *Endocrinology* 139: 894-904.
- Girard, B., et al. 1999. Characterization and regulation of peptidylglycine  $\alpha$ -amidating monooxygenase (PAM) expression in H9c2 cardiac myoblasts. *Cell Tissue Res.* 298: 489-497.
- Caldwell, B.D., et al. 1999. The novel kinase peptidylglycine  $\alpha$ -amidating monooxygenase cytosolic interactor protein 2 interacts with the cytosolic routing determinants of the peptide processing enzyme peptidyl glycine  $\alpha$ -amidating monooxygenase. *J. Biol. Chem.* 274: 34646-34656.

### CHROMOSOMAL LOCATION

Genetic locus: PAM (human) mapping to 5q21; Pam (mouse) mapping to 14 E2.3.

### STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

### SOURCE

p-PAM (Ser 949)-R is a rabbit polyclonal antibody raised against a short amino acid sequence containing phosphorylated Ser 949 of PAM of human origin.

### PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-22263 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

### APPLICATIONS

PAM (S-16) is recommended for detection of PAM of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for PAM siRNA (h): sc-106802, PAM siRNA (m): sc-155926, PAM shRNA Plasmid (h): sc-106802-SH, PAM shRNA Plasmid (m): sc-155926-SH, PAM shRNA (h) Lentiviral Particles: sc-106802-V and PAM shRNA (m) Lentiviral Particles: sc-155926-V.

Molecular Weight of PAM: 120/94/84/45 kDa.

Positive Controls: MIA PaCa-2 cell lysate: sc-2285.

### RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

### RESEARCH USE

For research use only, not for use in diagnostic procedures.

### PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.