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PAM/Peptidylglycine 2 hydroxylase Rabbit pAb

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Catalog # AP57819

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	P19021
Reactivity	Rat, Mouse
Predicted	Pig, Dog, Human, Rabbit, Horse, Sheep
Host	Rabbit
Clonality	Polyclonal
Calculated MW	108332
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human PAM/Peptidylglycine 2 hydroxylase
Epitope Specificity	41-140/973
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SUBCELLULAR LOCATION	Membrane and Secreted. Secreted from secretory granules.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	This gene encodes a multifunctional protein. It has two enzymatically active domains with catalytic activities - peptidylglycine alpha-hydroxylating monooxygenase (PHM) and peptidyl-alpha-hydroxyglycine alpha-amidating lyase (PAL). These catalytic domains work sequentially to catalyze neuroendocrine peptides to active alpha-amidated products. Multiple alternatively spliced transcript variants encoding different isoforms have been described for this gene but some of their full length sequences are not yet known. [provided by RefSeq, Jul 2008]

Additional Information

Gene ID	5066
Other Names	Peptidyl-glycine alpha-amidating monooxygenase, PAM, Peptidylglycine alpha-hydroxylating monooxygenase, PHM, 1.14.17.3, Peptidyl-alpha-hydroxyglycine alpha-amidating lyase, 4.3.2.5, Peptidylamidoglycolate lyase, PAL, PAM {ECO:0000303|PubMed:12699694, ECO:0000312|HGNC:HGNC:8596}
Dilution	IHC-P=1:100-500,IHC-F=1:100-500,ICC/IF=1:100-500,IF=1:100-500
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name	PAM {ECO:0000303|PubMed:12699694, ECO:0000312|HGNC:HGNC:8596}
Function	Bifunctional enzyme that catalyzes amidation of the C- terminus of proteins (PubMed:12699694, PubMed:2357221). Alpha-amidation is present at the C-terminus of many endocrine hormones and neuropeptides and is required for their activity (PubMed:1575450). C- terminal amidation also takes place in response to protein fragmentation triggered by oxidative stress, promoting degradation of amidated protein fragments by the proteasome (PubMed:2207077). Alpha- amidation involves two sequential reactions, both of which are catalyzed by separate catalytic domains of the enzyme (PubMed:12699694). The first step, catalyzed by peptidyl alpha- hydroxylating monooxygenase (PHM) domain, is the copper-, ascorbate-, and O2-dependent stereospecific hydroxylation (with S stereochemistry) at the alpha-carbon (C-alpha) of the C-terminal glycine of the peptidylglycine substrate (PubMed:12699694). The second step, catalyzed by the peptidylglycine amidoglycolate lyase (PAL) domain, is the zinc- dependent cleavage of the N-C-alpha bond, producing the alpha-amidated peptide and glyoxylate (PubMed:12699694). Similarly, catalyzes the two- step conversion of an N-fatty acylglycine to a primary fatty acid amide and glyoxylate (By similarity).
Cellular Location	Cytoplasmic vesicle, secretory vesicle membrane {ECO:0000250|UniProtKB:P10731}; Single-pass membrane protein {ECO:0000250|UniProtKB:P10731}. Note=Secretory granules {ECO:0000250|UniProtKB:P10731} [Isoform 2]: Membrane; Single-pass type I membrane protein [Isoform 4]: Secreted. Note=Secreted from secretory granules

Background

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