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PARL Polyclonal Antibody

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP58696

Product Information

Application	WB, IHC-P, IHC-F, IF, E
Primary Accession	Q9H300
Reactivity	Rat, Pig, Dog
Host	Rabbit
Clonality	Polyclonal
Calculated MW	42190
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human PARL
Epitope Specificity	101-200/379
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	Mitochondrion inner membrane and Nucleus. Translocated into the nucleus by an unknown mechanism.
SIMILARITY	Belongs to the peptidase S54 family.
Post-translational modifications	P-beta is proteolytically processed (beta-cleavage) in a PARL-dependent manner. The cleavage is inhibited when residues Ser-65, Thr-69 and Ser-70 are all phosphorylated.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	Presenilins associated rhombiod-like protein (PARL) is a mitochondrial intramembrane-cleaving protease belonging to the S54 family of proteins. PARL is involved in intramembrane regulated proteolysis as its catalytic activity involves the cleaving of signaling proteins at intracellular membranes to release active fragments in signal transduction cascades. Using a triad of histidine, serine and asparagine, PARL cleaves type-1 transmembrane domains. PARL is a multi-pass membrane protein localizing to the inner and outer mitochondrial membranes, but it can also be detected in the nucleus following proteolytical processing of P-β. PARL co-localizes with the presenilins PSEN1 and PSEN2, the familial Alzheimer disease products.

Additional Information

Gene ID	55486
Other Names	Presenilins-associated rhomboid-like protein, mitochondrial, 3.4.21.105, Mitochondrial intramembrane cleaving protease PARL, P-beta, Pbeta, PARL, PSARL
Dilution	WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500,ELISA=1:5000-10000

Format	0.01M TBS(pH7.4) with 1% BSA, 0.09% (W/V) sodium azide and 50% Glyce
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	PARL
Synonyms	PSARL
Function	Required for the control of apoptosis during postnatal growth. Essential for proteolytic processing of an antiapoptotic form of OPA1 which prevents the release of mitochondrial cytochrome c in response to intrinsic apoptotic signals (By similarity). Required for the maturation of PINK1 into its 52kDa mature form after its cleavage by mitochondrial-processing peptidase (MPP) (PubMed:22354088). Promotes cleavage of serine/threonine-protein phosphatase PGAM5 in damaged mitochondria in response to loss of mitochondrial membrane potential (PubMed:22915595). Mediates differential cleavage of PINK1 and PGAM5 depending on the health status of mitochondria, disassociating from PINK1 and associating with PGAM5 in response to mitochondrial membrane potential loss (PubMed:22915595). Required for processing of CLPB into a form with higher protein disaggregase activity by removing an autoinhibitory N-terminal peptide (PubMed:28288130, PubMed:32573439). Promotes processing of DIABLO/SMAC in the mitochondrion which is required for DIABLO apoptotic activity (PubMed:28288130). Also required for cleavage of STARD7 and TTC19 (PubMed:28288130). Promotes changes in mitochondria morphology regulated by phosphorylation of P-beta domain (PubMed:14732705, PubMed:17116872).
Cellular Location	Mitochondrion inner membrane; Multi-pass membrane protein