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PARL Antibody

Purified Mouse Monoclonal Antibody
Catalog # AO1197a

Product Information

Application	WB, E
Primary Accession	Q9H300
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Clone Names	8C4B2; 1H12E10
Isotype	IgG2b
Calculated MW	42190
Description	PARL: presenilin associated, rhomboid-like. This gene encodes a mitochondrial integral membrane protein. Following proteolytic processing of this protein, a small peptide (P-beta) is formed and translocated to the nucleus. This gene may be involved in signal transduction via regulated intramembrane proteolysis of membrane-tethered precursor proteins. Variation in this gene has been associated with increased risk for type 2 diabetes. Alternative splicing results in multiple transcript variants encoding different isoforms.
Immunogen	Purified recombinant fragment of PARL (aa112-167) expressed in E. Coli.
Formulation	Ascitic fluid containing 0.03% sodium azide.

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 - 1/2000 E~~N/A
Storage	Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	PARL Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	PARL (HGNC:18253)
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). Mediates STARD7 processing which regulates STARD7 location between mitochondria and cytosol (PubMed:28288130, PubMed:29301859, PubMed:36658222). Also required for cleavage of 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

References

1. J Alzheimers Dis. 2001 Apr;3(2):181-190. 2. Proc Natl Acad Sci U S A. 2002 Dec 24;99(26):16899-903. 3. Nature. 2003 May 29;423(6939):537-41.

Images

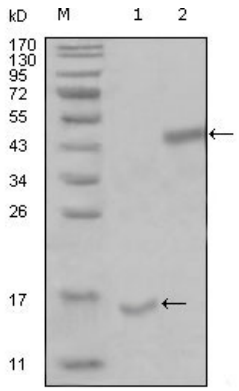


Figure 1: Western blot analysis using PARL mouse mAb against truncated Trx-PARL recombinant protein (1) and truncated MBP-PARL(aa112-167) recombinant protein (2).

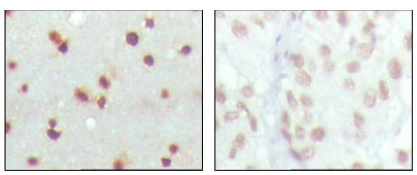
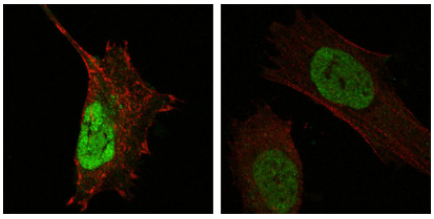


Figure 2: Immunohistochemical analysis of paraffin-embedded human cerebra (left) and lung carcinoma (right) tissues, showing nuclear localization with DAB staining using MDM4 mouse mAb.

Figure 3: Confocal immunofluorescence analysis of Hela (left) and L-02 (right) cells using anti-MDM4 mAb (green).



Red: Actin filaments have been labeled with DY-554 phalloidin.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.