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PARL Antibody
Purified Mouse Monoclonal Antibody
Catalog # AO1197a

Specification

PARL Antibody - Product Information

Application	**WB, IHC, IF**
Primary Accession	Q9H300
Reactivity	**Human**
Host	**Mouse**
Clonality	**Monoclonal**
Isotype	**IgG2b**

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.

PARL Antibody - 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
IHC~~1:200~~1000
IF~~1:200~1000.

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.

PARL Antibody - 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

PARL Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

PARL Antibody - Images

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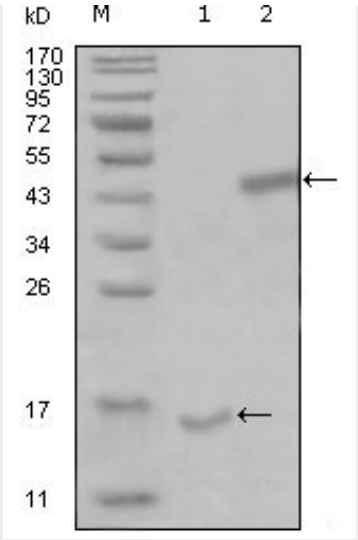


Figure 1: Western blot analysis using PARL mouse mAb against truncated Trx-PARL recombinant protein (1) and truncated MBP-PARL(aa112-167) recombinant protein (2).

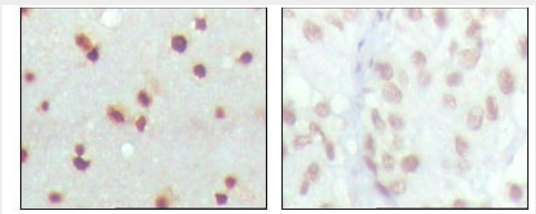


Figure 2: Immunohistochemical analysis of paraffin-embedded human cerebra (left) and lung carcinoma (right) tissues, showing nuclear localization with DAB staining using MDM4 mouse mAb.

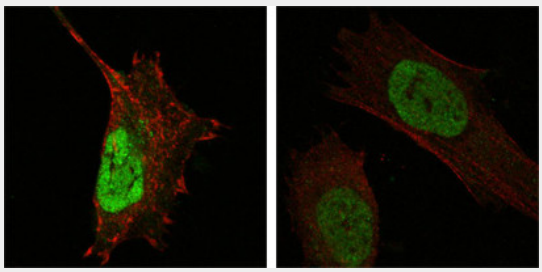


Figure 3: Confocal immunofluorescence analysis of Hela (left) and L-02 (right) cells using anti-MDM4 mAb (green). Red: Actin filaments have been labeled with DY-554 phalloidin.

PARL Antibody - 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.