

#### DESCRIPTION

|                           |                                                                                                                                                                                                                                                                             |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Species Reactivity</b> | Human/Mouse/Rat                                                                                                                                                                                                                                                             |
| <b>Specificity</b>        | Detects human, mouse, and rat PARL in Western blots and detects recombinant human PARL in direct ELISAs.                                                                                                                                                                    |
| <b>Source</b>             | Polyclonal Sheep IgG                                                                                                                                                                                                                                                        |
| <b>Purification</b>       | Antigen Affinity-purified                                                                                                                                                                                                                                                   |
| <b>Immunogen</b>          | <i>E. coli</i> -derived recombinant human PARL<br>Gly71-Arg167<br>Accession # Q9H300                                                                                                                                                                                        |
| <b>Conjugate</b>          | Alexa Fluor 647<br>Excitation Wavelength: 650 nm<br>Emission Wavelength: 668 nm                                                                                                                                                                                             |
| <b>Formulation</b>        | Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide<br><br>*Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions. |

#### APPLICATIONS

**Please Note:** Optimal dilutions should be determined by each laboratory for each application. [General Protocols](#) are available in the Technical Information section on our website.

**Western Blot** Optimal dilution of this antibody should be experimentally determined.

#### PREPARATION AND STORAGE

|                                |                                                                                                                   |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------|
| <b>Shipping</b>                | The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below. |
| <b>Stability &amp; Storage</b> | Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied                          |

#### BACKGROUND

PARL (Presenilins-associated Rhomboid-like protein; also P $\beta$ ) is a 41-43 kDa member of the peptidase S54 family (alternatively, the 1 + 6 PARL subfamily; Rhomboid family) of molecules. It is ubiquitously expressed, being found in both embryo and adult. Rhomboid proteins are an ancient family of intramembrane-cleaving molecules that evolved as regulators of mitochondrial membrane dynamics. PARL is an inner mitochondrial-membrane embedded protein that appears to have at least two functions. First, it interacts with Opa1 and regulates apoptosis. Second, it appears to communicate to the nucleus information related to levels of mitochondrial stress. Human PARL is 379 amino acids (aa) in length. It consists of a mitochondrial targeting sequence (aa 1-52) plus a mature polypeptide (aa 53-379) that contains seven transmembrane segments and a 25 aa C-terminus that projects into the intermitochondrial membrane space. PARL undergoes two cleavages. The first occurs between Gly52Phe53 and removes the targeting sequence, generating a membrane-bound 37 kDa mature protein. The second occurs between Ser77Ala78, generating a membrane-bound 34 kDa processed form, plus a matrix-soluble 25 aa peptide (P $\beta$ -peptide; aa 53-77) that translocates to the nucleus. There is one potential splice variant that possesses a Ser substitution for aa 203-253. Over aa 71-167, human PARL shares 92% aa sequence identity with mouse PARL.

#### PRODUCT SPECIFIC NOTICES

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