

**DESCRIPTION**

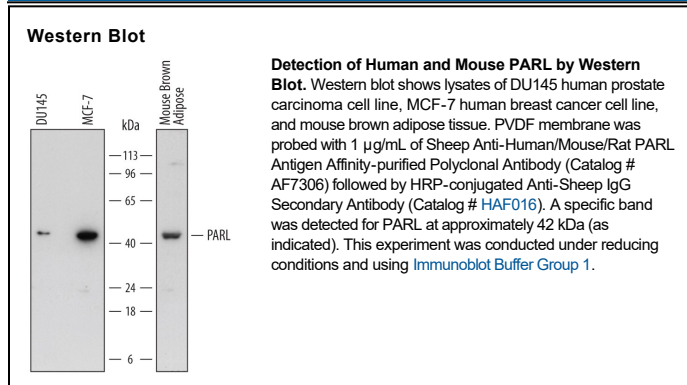
<b>Species Reactivity</b>	Human/Mouse/Rat
<b>Specificity</b>	Detects human, mouse, and rat PARL in Western blots and detects recombinant human PARL in direct ELISAs.
<b>Source</b>	Polyclonal Sheep IgG
<b>Purification</b>	Antigen Affinity-purified
<b>Immunogen</b>	<i>E. coli</i> -derived recombinant human PARL Gly71-Arg167 Accession # Q9H300
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

**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.

	<b>Recommended Concentration</b>	<b>Sample</b>
<b>Western Blot</b>	1 µg/mL	See Below

**DATA**



**PREPARATION AND STORAGE**

<b>Reconstitution</b>	Sterile PBS to a final concentration of 0.2 mg/mL.
<b>Shipping</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
<b>Stability &amp; Storage</b>	<b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <ul style="list-style-type: none"> <li>• 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>• 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>• 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

**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.