

**DESCRIPTION**

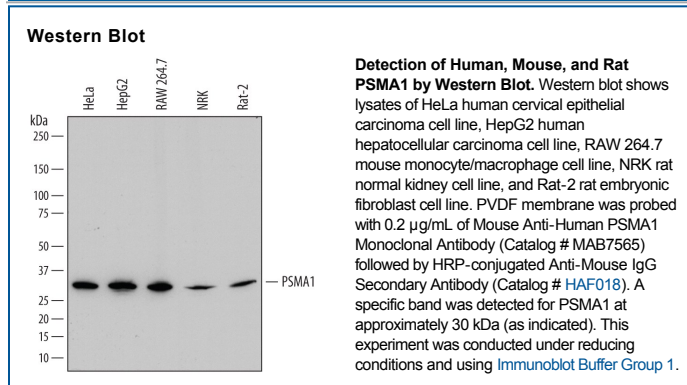
<b>Species Reactivity</b>	Human/Mouse/Rat
<b>Specificity</b>	Detects human PSMA1 in direct ELISAs. Detects endogenous human, mouse, and rat PSMA1 in Western blot.
<b>Source</b>	Monoclonal Mouse IgG <sub>2A</sub> Clone # 785019
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Immunogen</b>	<i>E. coli</i> -derived recombinant human PSMA1 Gln16-His263 Accession # P25786
<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 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>	0.2 µg/mL	See Below

**DATA**



**PREPARATION AND STORAGE**

<b>Reconstitution</b>	Sterile PBS to a final concentration of 0.5 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**

PSMA1 (Proteasome subunit alpha type-1; also 30 kDa prosomal protein/PROS30, HC2, proteasome component C2/PSC2, PSMA-1/α6, and NU) is a 30 kDa member of the peptidase T1A family of enzymes. It is widely expressed, and found in both cytoplasm and nucleus. Short-lived intracellular molecules (typically proteins) are enzymatically degraded by the 26S proteasome. This is a multisubunit 3D complex that is over 2000 kDa in size, and recognizes previously ubiquitinated proteins. The middle of this 26S complex is shaped like a barrel with four staves that run circumferentially rather than longitudinally. Each staff contains seven subunits, with β-type subunits generating the two center staves, and α-type subunits comprising the outer, or flanking staves. The function of the barrel, also known as the 20S protease core "particle", is to enzymatically cleave substrates that enter its chamber. For proteins, this is done by β-type subunits. The 26S complex also cleaves mRNA, and this is mediated by α-type subunits. PSMA-1/α6 does not cleave mRNA, but it does positively regulate PSMA5/α5 catalytic activity. Notably, PSMA1 has also been reported to bind to LPS. Human PSMA1 is 263 amino acids (aa) in length. It contains an acetylated Met at position #1, plus three utilized phosphorylation sites at Tyr6, Thr11, and Ser16. There are at least four potential isoform variants. Three utilize alternative start sites. One shows a start site at Met140, while a second and third initiates translation at sites 6 and 43 aa upstream of the standard site, respectively. A fourth isoform possess a 16 aa substitution for aa 115-263. Over aa 16-263, human PSMA1 shares 98% aa sequence identity with mouse PSMA1.