

DESCRIPTION

Species Reactivity	Human/Mouse/Rat
Specificity	Detects human PSMA1 in direct ELISAs. Detects endogenous human, mouse, and rat PSMA1 in Western blot.
Source	Monoclonal Mouse IgG _{2A} Clone # 785019
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	<i>E. coli</i> -derived recombinant human PSMA1 Gln16-His263 Accession # P25786
Conjugate	Alexa Fluor 594 Excitation Wavelength: 590 nm Emission Wavelength: 617 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide *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

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

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 stave 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.

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