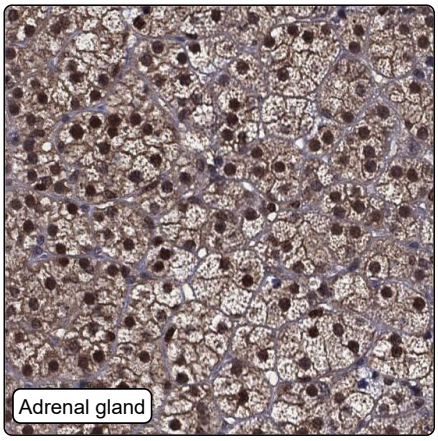
CPTC-PSMA1-1 (CAB079995)

Uniprot ID: P25786
Protein name: PSA1_HUMAN
Full name: Proteasome subunit alpha type-1
Function: Component of the 20S core proteasome complex involved in the proteolytic degradation of most intracellular proteins. This complex plays numerous essential roles within the cell by associating with different regulatory particles. Associated with two 19S regulatory particles, forms the 26S proteasome and thus participates in the ATP-dependent degradation of ubiquitinated proteins. The 26S proteasome plays a key role in the maintenance of protein homeostasis by removing misfolded or damaged proteins that could impair cellular functions, and by removing proteins whose functions are no longer required. Associated with the PA200 or PA28, the 20S proteasome mediates ubiquitin-independent protein degradation. This type of proteolysis is required in several pathways including spermatogenesis (20S-PA200 complex) or generation of a subset of MHC class I-presented antigenic peptides (20S-PA28 complex).
Subcellular location:
Cytoplasm (*experimental evidence*)
Nucleus (*experimental evidence*)
Protein existence: Experimental evidence at protein level

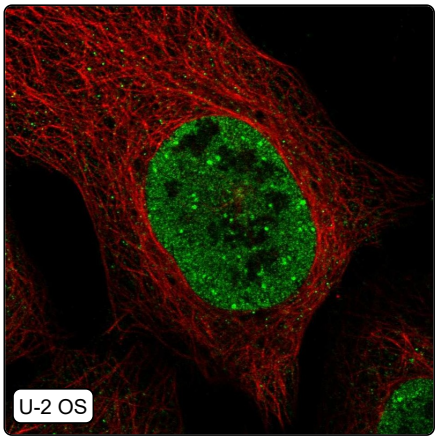
Comment: ICC-IF: We will try to get a good staining of this antibody in two more cell lines, before publication on the HPA. /Ulrika Axelsson

Immunohistochemistry



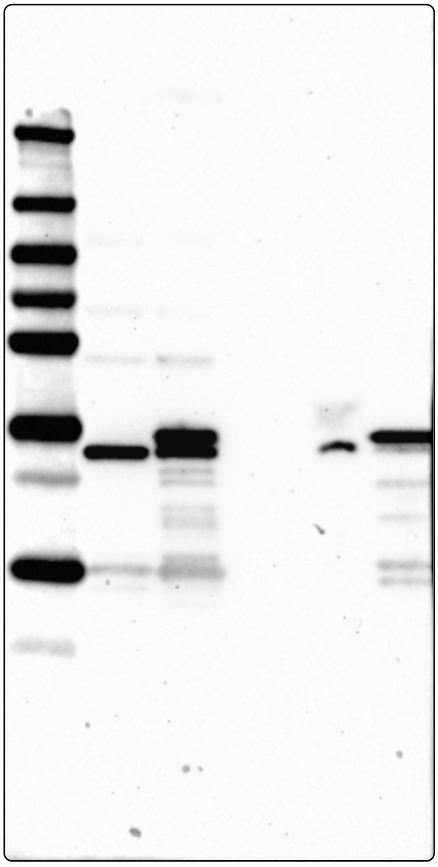
IHC protocol:	HIER pH6, Dilution 1:11000
IHC test staining:	Nuclear and cytoplasmic positivity with varying intensity in several tissues.
Literature conformance:	Consistent with extensive gene/protein characterization data
Literature significance:	
RNA consistency:	Mainly consistent with RNA expression data
IHC Sibling similarity:	Other antibody shows partly similar IHC staining pattern

Immunofluorescence



IF Overlay:	antibody (green), anti-tubuline (red) and DAPI (blue)
IF main location:	Nucleoplasm - 3: **Supportive** (auto)
IF additional location:	Centrosome - 5: **Approved** (auto) Nuclear bodies - 3: **Supportive** (auto)
IF Antibody score:	Supportive
IF in A549:	Nucleoplasm
IF in HEK 293:	Negative
IF in U-2 OS:	Nucleoplasm Nuclear bodies Centrosome

Western blot



WB Size markers (kDa):	250, 130, 100, 70, 55, 35, 25, 15, 10
WB Lanes:	Marker (1), RT4 (2), U-251 MG (3), Plasma (4), Liver (5), Tonsil (6)
WB Target weight (kDa):	0, 1, 27, 30, 30
WB Validation:	Supported (Band of predicted size in kDa (+/-20%) with additional bands present.)