

# Anti-PSMA7 / HSPC Antibody [PSH14-09] - BSA and Azide free

## HA751504



<b>Product Type:</b>	Recombinant Rabbit monoclonal IgG, primary antibodies
<b>Species reactivity:</b>	Human, Mouse, Rat, Monkey
<b>Applications:</b>	WB, IF-Cell, IHC-P, FC
<b>Molecular Wt:</b>	Predicted band size: 28 kDa
<b>Clone number:</b>	PSH14-09

**Description:** Proteasome subunit alpha type-7 also known as 20S proteasome subunit alpha-4 is a protein that in humans is encoded by the PSMA7 gene. This protein is one of the 17 essential subunits (alpha subunits 1–7, constitutive beta subunits 1–7, and inducible subunits including beta1i, beta2i, beta5i) that contributes to the complete assembly of 20S proteasome complex. The eukaryotic proteasome recognized degradable proteins, including damaged proteins for protein quality control purpose or key regulatory protein components for dynamic biological processes. An essential function of a modified proteasome, the immunoproteasome, is the processing of class I MHC peptides. As a component of alpha ring, proteasome subunit alpha type-7 contributes to the formation of heptameric alpha rings and substrate entrance gate. Importantly, this subunit plays a critical role in the assembly of 19S base and 20S. This particular subunit has been shown to interact specifically with the hepatitis B virus X protein, a protein critical to viral replication. In addition, this subunit is involved in regulating hepatitis virus C internal ribosome entry site (IRES) activity, an activity essential for viral replication. This core alpha subunit is also involved in regulating the hypoxia-inducible factor-1alpha, a transcription factor important for cellular responses to oxygen tension.

**Immunogen:** Recombinant protein within human PSMA7 aa 51-248.

**Positive control:** A549 cell lysate, HepG2 cell lysate, HeLa cell lysate, COS-1 cell lysate, 4T1 cell lysate, Neuro-2a cell lysate, PC-12 cell lysate, A549, human liver cancer tissue, human colon tissue, mouse colon tissue.

**Subcellular location:** Cytoplasm, Nucleus.

**Database links:** SwissProt: O14818 Human | Q9Z2U0 Mouse | P48004 Rat

**Recommended Dilutions:**

<b>WB</b>	1:50,000
<b>IF-Cell</b>	1:100
<b>IHC-P</b>	1:200-1:1,000
<b>FC</b>	1:1,000

**Storage Buffer:** 1\*PBS (pH7.4).

**Storage Instruction:** Store at +4°C after thawing. Aliquot store at -20°C. Avoid repeated freeze / thaw cycles.

**Purity:** Protein A affinity purified.

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Orders:0086-571-88062880

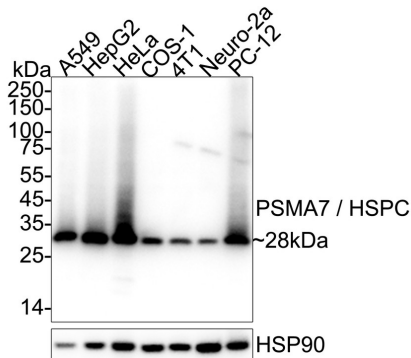
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## Images

**Fig1:** Western blot analysis of PSMA7 / HSPC on different lysates with Rabbit anti-PSMA7 / HSPC antibody (HA751504) at 1/50,000 dilution.



Lane 1: A549 cell lysate  
 Lane 2: HepG2 cell lysate  
 Lane 3: HeLa cell lysate  
 Lane 4: COS-1 cell lysate  
 Lane 5: 4T1 cell lysate  
 Lane 6: Neuro-2a cell lysate  
 Lane 7: PC-12 cell lysate

Lysates/proteins at 20 µg/Lane.

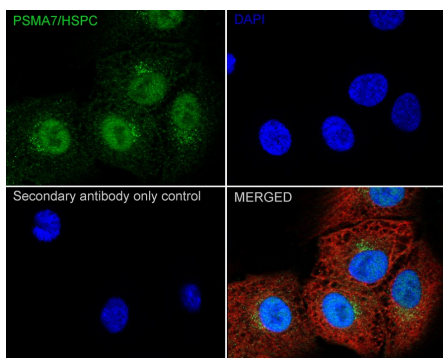
Predicted band size: 28 kDa  
 Observed band size: 28 kDa

Exposure time: 4 seconds; ECL: K1801;

4-20% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (HA751504) at 1/50,000 dilution was used in primary antibody dilution (K1803) at 4°C overnight. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1/50,000 dilution was used for 1 hour at room temperature.

**Fig2:** Immunocytochemistry analysis of A549 cells labeling PSMA7 / HSPC with Rabbit anti-PSMA7 / HSPC antibody (HA751504) at 1/100 dilution.



Cells were fixed in 4% paraformaldehyde for 15 minutes at room temperature, permeabilized with 0.1% Triton X-100 in PBS for 15 minutes at room temperature, then blocked with 1% BSA in 10% negative goat serum for 1 hour at room temperature. Cells were then incubated with Rabbit anti-PSMA7 / HSPC antibody (HA751504) at 1/100 dilution in 1% BSA in PBST overnight at 4°C. Goat Anti-Rabbit IgG H&L (iFluor™ 488, HA1121) was used as the secondary antibody at 1/1,000 dilution. PBS instead of the primary antibody was used as the secondary antibody only control. Nuclear DNA was labelled in blue with DAPI.

Beta tubulin (HA601187, red) was stained at 1/100 dilution overnight at +4°C. Goat Anti-Mouse IgG H&L (iFluor™ 594, HA1126) was used as the secondary antibody at 1/1,000 dilution.

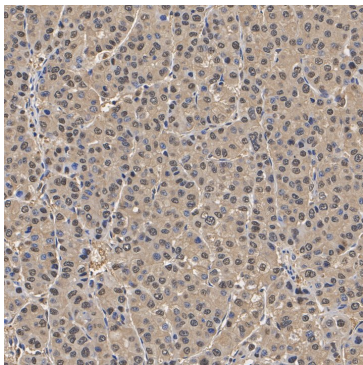
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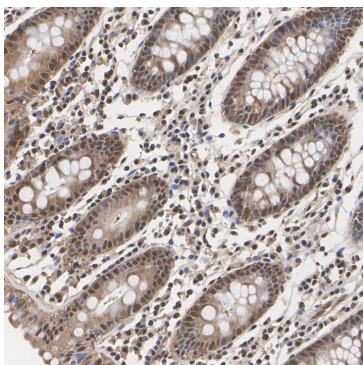
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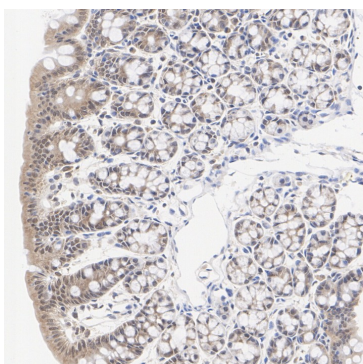
**Fig3:** Immunohistochemical analysis of paraffin-embedded human liver cancer tissue with Rabbit anti-PSMA7 / HSPC antibody (HA751504) at 1/1,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH<sub>2</sub>O and PBS, and then probed with the primary antibody (HA751504) at 1/1,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.



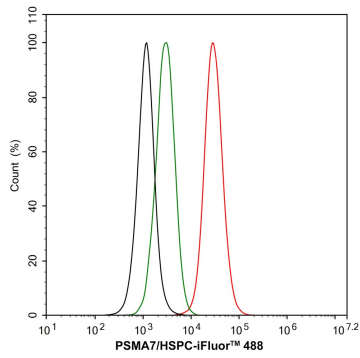
**Fig4:** Immunohistochemical analysis of paraffin-embedded human colon tissue with Rabbit anti-PSMA7 / HSPC antibody (HA751504) at 1/200 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH<sub>2</sub>O and PBS, and then probed with the primary antibody (HA751504) at 1/200 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.



**Fig5:** Immunohistochemical analysis of paraffin-embedded mouse colon tissue with Rabbit anti-PSMA7 / HSPC antibody (HA751504) at 1/1,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH<sub>2</sub>O and PBS, and then probed with the primary antibody (HA751504) at 1/1,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.



**Fig6:** Flow cytometric analysis of A549 cells labeling PSMA7 / HSPC.

Cells were fixed and permeabilized. Then stained with the primary antibody (HA751504, 1/1,000) (red) compared with Rabbit IgG Isotype Control (green). After incubation of the primary antibody at +4°C for an hour, the cells were stained with a iFluor™ 488 conjugate-Goat anti-Rabbit IgG Secondary antibody (HA1121) at 1/1,000 dilution for 30 minutes at +4°C. Unlabelled sample was used as a control (cells without incubation with primary antibody; black).

**Note:** All products are “FOR RESEARCH USE ONLY AND ARE NOT INTENDED FOR DIAGNOSTIC OR THERAPEUTIC USE”.

### Background References

1. Jiao QH et al. PSMA7 promotes the malignant proliferation of esophageal cancer. *Heliyon*. 2023 Dec
2. Sheng G et al. Pan-cancer analysis identifies PSMA7 as a targets for amplification at 20q13.33 in tumorigenesis. *Sci Rep*. 2024 Feb

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