Anti-PSMA Antibody [A10A2]

HA601169

Product Type:	Mouse monoclonal IgG1, primary antibodies
Species reactivity:	Human
Applications:	WB, IHC-P, IF-Cell
Molecular Wt:	Predicted band size: 84 kDa
Clone number:	A10A2

Description: Glutamate carboxypeptidase II (GCPII), also known as N-acetyl-L-aspartyl-L-glutamate peptidase I (NAALADase I), NAAG peptidase, or prostate-specific membrane antigen (PSMA) is an enzyme that in humans is encoded by the FOLH1 (folate hydrolase 1) gene. Human GCPII contains 750 amino acids and weighs approximately 84 kDa. GCPII is a zinc metalloenzyme that resides in membranes. Most of the enzyme resides in the extracellular space. GCPII is a class II membrane glycoprotein. It catalyzes the hydrolysis of N-acetylaspartylglutamate (NAAG) to glutamate and N-acetylaspartate (NAA) according to the reaction scheme to the right. Neuroscientists primarily use the term NAALADase in their studies, while those studying folate metabolism use folate hydrolase, and those studying prostate cancer or oncology, PSMA. All refer to the same protein glutamate carboxypeptidase II.

Immunogen: Recombinant protein within human PSMA aa 20-750 / 750.

Positive control: LNCaP cell lysate, 22RV1 cell lysate, human prostate tissue, human prostate carcinoma tissue, LNCaP.

Subcellular location: Cell membrane, Cytoplasm.

Database links: SwissProt: Q04609 Human

Recommended Dilutions:

WB	1:1,000-1:5,000
IHC-P	1:1,000
IF-Cell	1:100

Storage Buffer: PBS (pH7.4), 0.1% BSA, 40% Glycerol. Preservative: 0.05% Sodium Azide.

Storage Instruction: Shipped at 4℃. Store at +4℃ short term (1-2 weeks). It is recommended to aliquot into single-use upon delivery. Store at -20℃ long term.

Purity: Protein A affinity purified.

Images

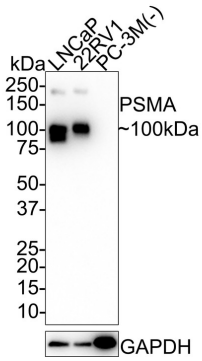

Fig1: Western blot analysis of PSMA on different lysates with Mouse anti-PSMA antibody (HA601169) at 1/1,000 dilution.

Lane 1: LNCaP cell lysate
Lane 2: 22RV1 cell lysate
Lane 3: PC-3M cell lysate (negative)

Lysates/proteins at 20 µg/Lane.

Predicted band size: 84 kDa
Observed band size: 100/200 kDa

Exposure time: 43 seconds;

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 (HA601169) at 1/1,000 dilution was used in 5% NFDM/TBST at room temperature for 2 hours. Goat Anti-Mouse IgG - HRP Secondary Antibody (HA1006) at 1/50,000 dilution was used for 1 hour at room temperature.

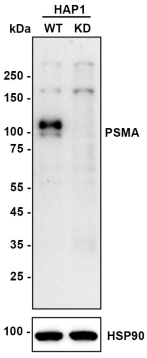

Fig2: Western blot analysis of PSMA on different lysates with Mouse anti-PSMA antibody (HA601169) at 1/5,000 dilution.

Lane 1: HAP1-parental cell lysate
Lane 2: HAP1-PSMA KD cell lysate

Lysates/proteins at 10 µg/Lane.

Predicted band size: 84 kDa
Observed band size: 110 kDa

Exposure time: 180 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 (HA601169) at 1/5,000 dilution was used in K1803 at 4℃ overnight. Goat Anti-Mouse IgG - HRP Secondary Antibody (HA1006) at 1/50,000 dilution was used for 1 hour at room temperature.

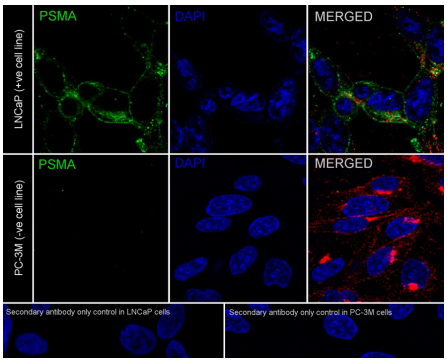

Fig3: Immunocytochemistry analysis of LNCaP (positive) and PC-3M (negative) cells labeling PSMA with Mouse anti-PSMA antibody (HA601169) at 1/100 dilution.

Cells were fixed in 100% precooled methanol for 5 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 Mouse anti-PSMA antibody (HA601169) at 1/100 dilution in 1% BSA in PBST overnight at 4 ℃. Goat Anti-Mouse IgG H&L (iFluor™ 488, HA1125) 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 (ET1602-4, red) was stained at 1/100 dilution overnight at +4℃. Goat Anti-Rabbit IgG H&L (iFluor™ 594, HA1122) were used as the secondary antibody at 1/1,000 dilution.

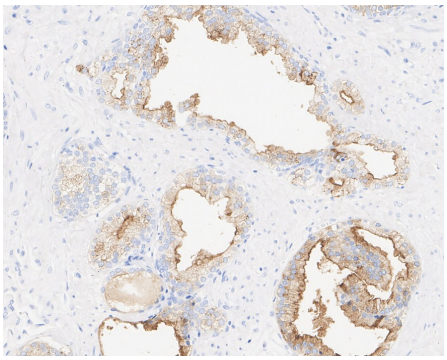

Fig4: Immunohistochemical analysis of paraffin-embedded human prostate tissue with Mouse anti-PSMA antibody (HA601169) at 1/1,000 dilution.

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_2O and PBS, and then probed with the primary antibody (HA601169) 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.

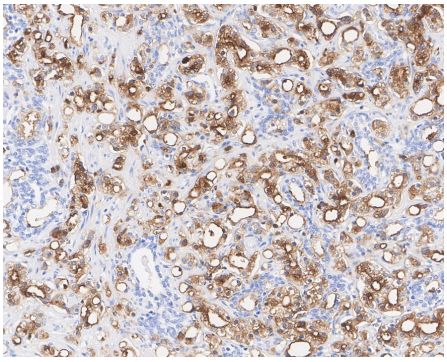

Fig5: Immunohistochemical analysis of paraffin-embedded human prostate carcinoma tissue with Mouse anti-PSMA antibody (HA601169) at 1/1,000 dilution.

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_2O and PBS, and then probed with the primary antibody (HA601169) 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.

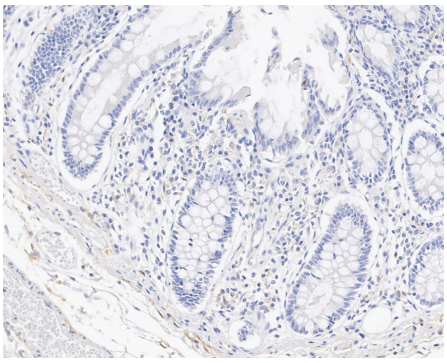

Fig6: Immunohistochemical analysis of paraffin-embedded human colon tissue (negative control) with Mouse anti-PSMA antibody (HA601169) at 1/1,000 dilution.

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_2O and PBS, and then probed with the primary antibody (HA601169) 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.

Background References

1. Wang F et al. Advances in PSMA-targeted therapy for prostate cancer. Prostate Cancer Prostatic Dis. 2022 Mar
2. Seifert R et al. Prostate Cancer Theranostics: PSMA Targeted Therapy. PET Clin. 2021 Jul