Anti-M6PR (cation dependent) Antibody [PSH01-06] HA721571

Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Human, Mouse, Rat
Applications:	WB, IHC-P
Molecular Wt:	Predicted band size: 31 kDa
Clone number:	PSH01-06

Description: In the fields of biochemistry and cell biology, the cation-dependent mannose-6-phosphate receptor (CD-MPR) also known as the 46 kDa mannose 6-phosphate receptor is a protein that in humans is encoded by the M6PR gene. The CD-MPR is one of two transmembrane proteins that bind mannose-6-phosphate (M6P) tags on acid hydrolase precursors in the Golgi apparatus that are destined for transport to the lysosome. Homologues of CD-MPR are found in all eukaryotes. Both CD-MPRs and CI-MPRs are lectins that bind their M6P-tagged cargo in the lumen of the Golgi apparatus. The CD-MPR shows greatly enhanced binding to M6P in the presence of divalent cations, such as manganese. The MPRs (bound to their cargo) are recognized by the GGA family of clathrin adaptor proteins and accumulate in forming clathrin-coated vesicles. They are trafficked to the early endosome where, in the relatively low pH environment of the endosome, the MPRs release their cargo. The MPRs are recycled back to the Golgi, again by way of interaction with GGAs and vesicles. The cargo proteins are then trafficked to the lysosome via the late endosome independently of the MPRs.

Immunogen: Recombinant protein within human M6PR aa 1-200 / 277.

Positive control: A549 cell lysate, PC-12 cell lysate, mouse kidney tissue lysate, rat kidney tissue lysate, human kidney tissue, human liver tissue, rat kidney tissue.

Subcellular location: Lysosome membrane.

Database links: SwissProt: P20645 Human | P24668 Mouse | Q6AY20 Rat

Recommended Dilutions:

WB	1:1,000
IHC-P	1:200-1:1,000

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

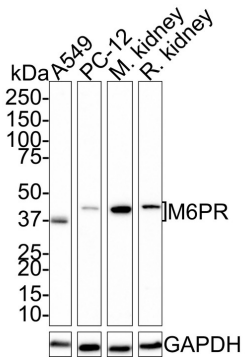

Fig1: Western blot analysis of M6PR (cation dependent) on different lysates with Rabbit anti-M6PR (cation dependent) antibody (HA721571) at 1/1,000 dilution.

Lane 1: A549 cell lysate (20 µg/Lane)
Lane 2: PC-12 cell lysate (20 µg/Lane)
Lane 3: Mouse kidney tissue lysate (40 µg/Lane)
Lane 4: Rat kidney tissue lysate (40 µg/Lane)

Predicted band size: 31 kDa
Observed band size: 37/46 kDa

Exposure time: 3 minutes;

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 (HA721571) at 1/1,000 dilution was used in 5% NFDM/TBST at room temperature for 2 hours. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1:100,000 dilution was used for 1 hour at room temperature.

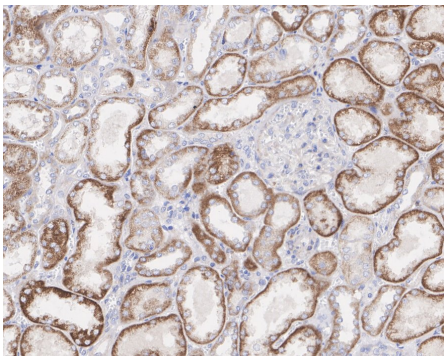

Fig2: Immunohistochemical analysis of paraffin-embedded human kidney tissue with Rabbit anti-M6PR (cation dependent) antibody (HA721571) at 1/1,000 dilution.

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 (HA721571) 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.

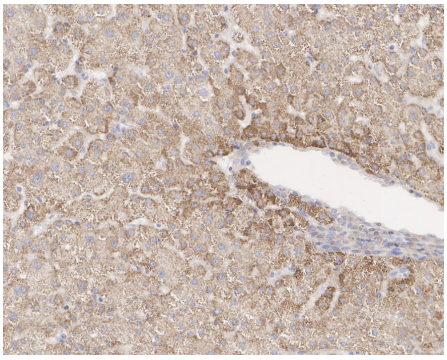

Fig3: Immunohistochemical analysis of paraffin-embedded human liver tissue with Rabbit anti-M6PR (cation dependent) antibody (HA721571) at 1/200 dilution.

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_2O and PBS, and then probed with the primary antibody (HA721571) 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.

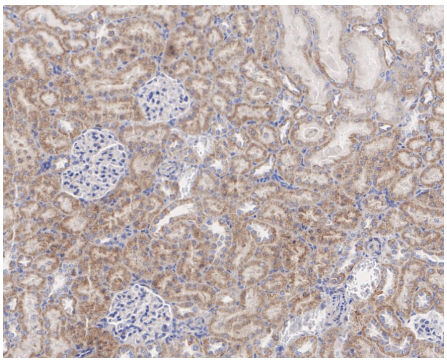

Fig4: Immunohistochemical analysis of paraffin-embedded rat kidney tissue with Rabbit anti-M6PR (cation dependent) antibody (HA721571) at 1/200 dilution.

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_2O and PBS, and then probed with the primary antibody (HA721571) 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.

Background References

1. Yan D et al. M6PR- and EphB4-Rich Exosomes Secreted by Serglycin-Overexpressing Esophageal Cancer Cells Promote Cancer Progression. Int J Biol Sci. 2023 Jan