Anti-DPP4 / CD26 Antibody [PSH12-59]

HA723473

Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Human
Applications:	WB, IHC-P, IF-Cell, FC, IP
Molecular Wt:	Predicted band size: 88 kDa
Clone number:	PSH12-59

Description: Dipeptidyl peptidase-4 (DPP4 or DPPIV), also known as adenosine deaminase complexing protein 2 or CD26 (cluster of differentiation 26) is a protein that, in humans, is encoded by the DPP4 gene. DPP4 is related to FAP, DPP8, and DPP9. The enzyme was discovered in 1966 by Hopsu-Havu and Glenner, and as a result of various studies on chemism, was called dipeptidyl peptidase IV [DP IV]. The protein encoded by the DPP4 gene is an enzyme expressed on the surface of most cell types and is associated with immune regulation, signal transduction, and apoptosis. It is a type II transmembrane glycoprotein, but a soluble form, which lacks the intracellular and transmembrane part, is present in blood plasma and various body fluids. DPP-4 is a serine exopeptidase that cleaves X-proline or X-alanine dipeptides from the N-terminus of polypeptides. Peptide bonds involving the cyclic amino acid proline cannot be cleaved by the majority of proteases and an N-terminal X-proline "shields" various biopeptides.[7] Extracellular proline-specific proteases therefore play an important role in the regulation of these biopeptides. DPP-4 is known to cleave a broad range of substrates including growth factors, chemokines, neuropeptides, and vasoactive peptides. The cleaved substrates lose their biological activity in the majority of cases, but in the case of the chemokine RANTES and neuropeptide Y, DPP-4 mediated cleavage leads to a shift in the receptor subtype binding.

Immunogen:	Recombinant protein within Human DPP4 aa 1-766.
Positive control:	LoVo cell lysate, Caco-2 cell lysate, HT-29 cell lysate, human colon carcinoma tissue, human kidney tissue, human liver tissue, Caco-2, LoVo.
Subcellular location:	Cell membrane, Apical cell membrane, Cell projection, invadopodium membrane, Cell projection, lamellipodium membraneCell junction, Membrane raft.
Database links:	SwissProt: P27487 Human
Recommended Dilutions:	
WB	1:5,000
IHC-P	1:1,000
IF-Cell	1:100
FC	1:1,000
IP	1-2μg/sample
Storage Buffer:	1*PBS (pH7.4), 0.1% BSA, 40% Glycerol, 0.2% Proclean 950.
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

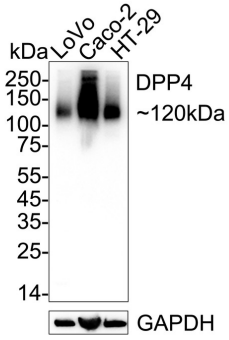

Fig1: Western blot analysis of DPP4 / CD26 on different lysates with Rabbit anti-DPP4 / CD26 antibody (HA723473) at 1/5,000 dilution.

Lane 1: LoVo cell lysate
Lane 2: Caco-2 cell lysate
Lane 3: HT-29 cell lysate

Lysates/proteins at 20 µg/Lane.

Predicted band size: 88 kDa
Observed band size: 120 kDa

Exposure time: 30 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 (HA723473) at 1/5,000 dilution was used in primary antibody dilution (K1803) at 4℃ overnight. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1/50,000 dilution was used for 1 hour at room temperature.

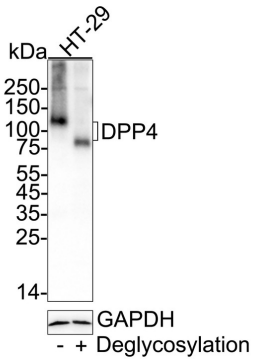

Fig2: Western blot analysis of DPP4 / CD26 on different lysates with Rabbit anti-DPP4 / CD26 antibody (HA723473) at 1/5,000 dilution.

Lane 1: HT-29 cell lysate
Lane 2: HT-29 cell lysate treated with deglycosylation

Lysates/proteins at 20 µg/Lane.

Predicted band size: 88 kDa
Observed band size: 120/88 kDa

Exposure time: 1 minute 16 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 (HA723473) at 1/5,000 dilution was used in primary antibody dilution (K1803) at 4℃ overnight. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1/50,000 dilution was used for 1 hour at room temperature.

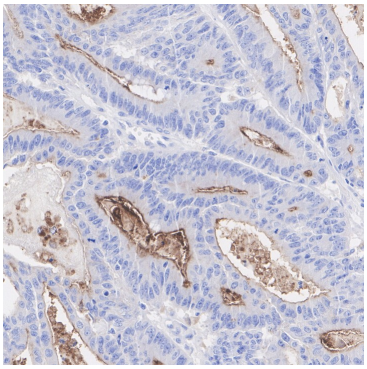

Fig3: Immunohistochemical analysis of paraffin-embedded human colon carcinoma tissue with Rabbit anti-DPP4 / CD26 antibody (HA723473) at 1/1,000 dilution.

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 (HA723473) 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.

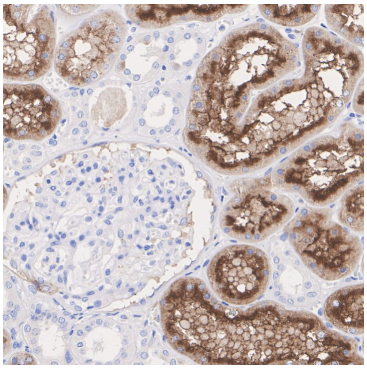

Fig4: Immunohistochemical analysis of paraffin-embedded human kidney tissue with Rabbit anti-DPP4 / CD26 antibody (HA723473) at 1/1,000 dilution.

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 (HA723473) 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.

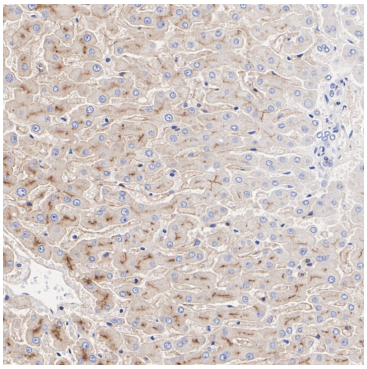

Fig5: Immunohistochemical analysis of paraffin-embedded human liver tissue with Rabbit anti-DPP4 / CD26 antibody (HA723473) at 1/1,000 dilution.

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 (HA723473) 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.

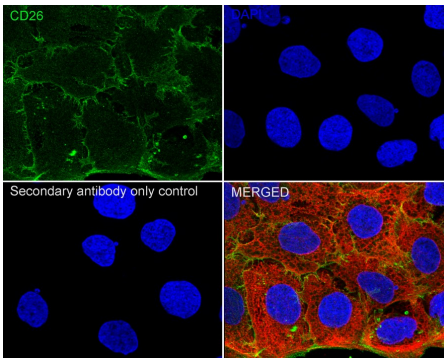

Fig6: Immunocytochemistry analysis of Caco-2 cells labeling DPP4 / CD26 with Rabbit anti-DPP4 / CD26 antibody (HA723473) at 1/100 dilution.

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-DPP4 / CD26 antibody (HA723473) at 1/100 dilution in 1% BSA in PBST overnight at 4 ℃. 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℃. Goat Anti-Mouse IgG H&L (iFluor™ 594, HA1126) was used as the secondary antibody at 1/1,000 dilution.

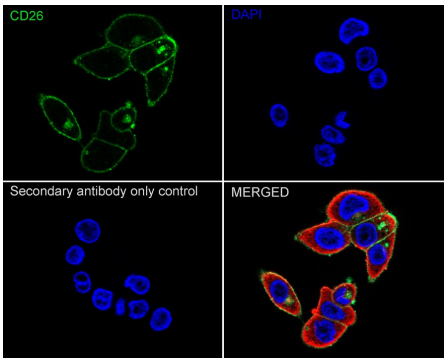

Fig7: Immunocytochemistry analysis of LoVo cells labeling DPP4 / CD26 with Rabbit anti-DPP4 / CD26 antibody (HA723473) at 1/100 dilution.

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-DPP4 / CD26 antibody (HA723473) at 1/100 dilution in 1% BSA in PBST overnight at 4 ℃. 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℃. Goat Anti-Mouse IgG H&L (iFluor™ 594, HA1126) was used as the secondary antibody at 1/1,000 dilution.

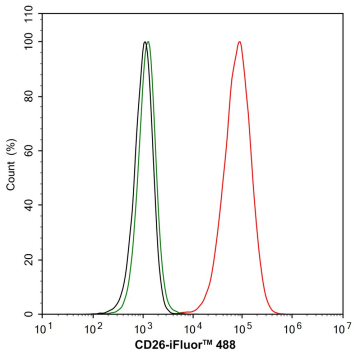

Fig8: Flow cytometric analysis of Caco-2 cells labeling DPP4 / CD26.

Cells were washed twice with cold PBS and resuspend. Then stained with the primary antibody (HA723473, 1/1,000) (red) compared with Rabbit IgG Isotype Control (green). After incubation of the primary antibody at +4℃ 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℃. Unlabelled sample was used as a control (cells without incubation with primary antibody; black).

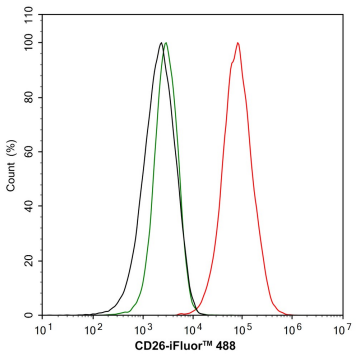

Fig9: Flow cytometric analysis of LoVo cells labeling DPP4 / CD26.

Cells were washed twice with cold PBS and resuspend. Then stained with the primary antibody (HA723473, 1/1,000) (red) compared with Rabbit IgG Isotype Control (green). After incubation of the primary antibody at +4℃ 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℃. Unlabelled sample was used as a control (cells without incubation with primary antibody; black).

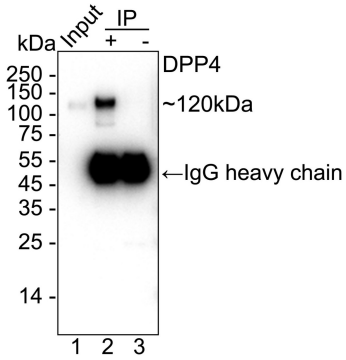

Fig10: DPP4 / CD26 was immunoprecipitated from 0.2 mg HT-29 cell lysate with HA723473 at 2 µg/10 µl beads. Western blot was performed from the immunoprecipitate using HA723473 at 1/5,000 dilution. HRP Conjugated Anti-Rabbit IgG for IP Nano-secondary antibody at 1/5,000 dilution was used for 1 hour at room temperature.

Lane 1: HT-29 cell lysate (input)
Lane 2: HA723473 IP in HT-29 cell lysate
Lane 3: Rabbit IgG instead of HA723473 in HT-29 cell lysate

Blocking/Dilution buffer: primary antibody dilution (K1803)
Exposure time: 10 seconds; ECL: K1801

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

Background References

1. Love KM et al. DPP4 Activity, Hyperinsulinemia, and Atherosclerosis. J Clin Endocrinol Metab. 2021 May
2. Chen SY et al. DPP4 as a Potential Candidate in Cardiovascular Disease. J Inflamm Res. 2022 Sep