Anti-LKB1 Antibody [PSH09-29]

HA723087

Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Human, Mouse, Rat, Monkey
Applications:	WB, IHC-P, IP
Molecular Wt:	Predicted band size: 49 kDa
Clone number:	PSH09-29

Description: The STK11/LKB1 gene, which encodes a member of the serine/threonine kinase family, regulates cell polarity and functions as a tumour suppressor. LKB1 is a primary upstream kinase of adenosine monophosphate-activated protein kinase (AMPK), a necessary element in cell metabolism that is required for maintaining energy homeostasis. It is now clear that LKB1 exerts its growth suppressing effects by activating a group of ~14 other kinases, comprising AMPK and AMPK-related kinases. Activation of AMPK by LKB1 suppresses growth and proliferation when energy and nutrient levels are scarce. Activation of AMPK-related kinases by LKB1 plays vital roles maintaining cell polarity thereby inhibiting inappropriate expansion of tumour cells. A picture from current research is emerging that loss of LKB1 leads to disorganization of cell polarity and facilitates tumour growth under energetically unfavorable conditions. A study in rats showed that LKB1 expression is upregulated in cardiomyocytes after birth and that LKB1 abundance negatively correlates with proliferation of neonatal rat cardiomyocytes.

Immunogen: Recombinant protein within human LKB1 aa 1-400.

Positive control: K-562 cell lysate, Jurkat cell lysate, HEK-293 cell lysate, COS-1 cell lysate, Mouse brain tissue lysate, Mouse testis tissue lysate, Rat testis tissue lysate, human testis tissue, mouse testis tissue, rat testis tissue.

Subcellular location: Nucleus, Cytoplasm, Membrane, Mitochondrion.

Database links: SwissProt: Q15831 Human | Q9WTK7 Mouse | D4AE59 Rat

Recommended Dilutions:

WB	1:2,000
IHC-P	1:200-1:1,000
IP	1-2μg/sample

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

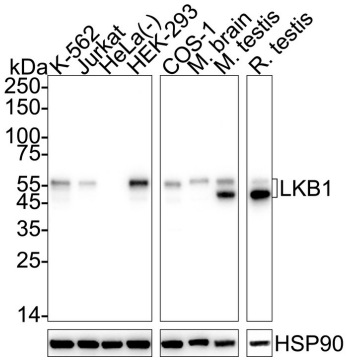

Fig1: Western blot analysis of LKB1 on different lysates with Rabbit anti-LKB1 antibody (HA723087) at 1/2,000 dilution.

Lane 1: K-562 cell lysate (20 µg/Lane)
Lane 2: Jurkat cell lysate (20 µg/Lane)
Lane 3: HeLa cell lysate (negative) (20 µg/Lane)
Lane 4: HEK-293 cell lysate (20 µg/Lane)
Lane 5: COS-1 cell lysate (20 µg/Lane)
Lane 6: Mouse brain tissue lysate (40 µg/Lane)
Lane 7: Mouse testis tissue lysate (40 µg/Lane)
Lane 8: Rat testis tissue lysate (40 µg/Lane)

Predicted band size: 49 kDa
Observed band size: 56/50 kDa

Exposure time: 20 seconds; ECL: K1802;

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 (HA723087) at 1/2,000 dilution was used in 5% NFDM/TBST at 4℃ overnight. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1/50,000 dilution was used for 1 hour at room temperature.

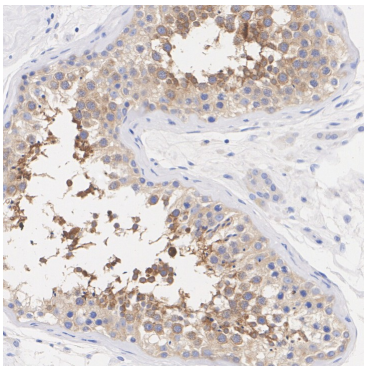

Fig2: Immunohistochemical analysis of paraffin-embedded human testis tissue with Rabbit anti-LKB1 antibody (HA723087) at 1/200 dilution.

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 (HA723087) 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.

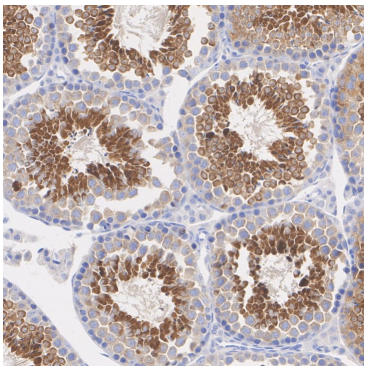

Fig3: Immunohistochemical analysis of paraffin-embedded mouse testis tissue with Rabbit anti-LKB1 antibody (HA723087) at 1/1,000 dilution.

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 (HA723087) 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.

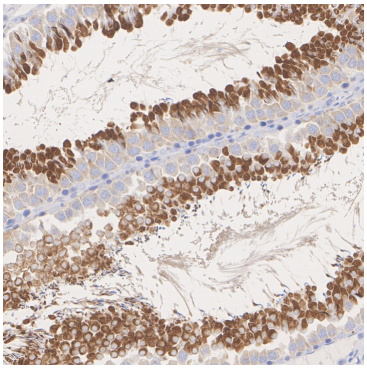

Fig4: Immunohistochemical analysis of paraffin-embedded rat testis tissue with Rabbit anti-LKB1 antibody (HA723087) at 1/1,000 dilution.

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 (HA723087) 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.

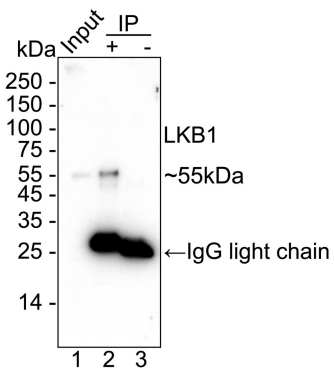

Fig5: LKB1 was immunoprecipitated from 0.2 mg HEK-293 cell lysate with HA723087 at 2 µg/10 µl beads. Western blot was performed from the immunoprecipitate using HA723087 at 1/1,000 dilution. Mouse Anti-Rabbit IgG kappa light chain secondary antibody (M1208-2) at 1/5,000 dilution was used for 1 hour at room temperature.

Lane 1: HEK-293 cell lysate (input)
Lane 2: HA723087 IP in HEK-293 cell lysate
Lane 3: Rabbit IgG instead of HA723087 in HEK-293 cell lysate

Blocking/Dilution buffer: 5% NFDM/TBST
Exposure time: 3 minutes; ECL: K1801

Background References

1. Compton SE et al. LKB1 controls inflammatory potential through CRTC2-dependent histone acetylation. Mol Cell. 2023 Jun
2. Pons-Tostivint E et al. STK11/LKB1 Modulation of the Immune Response in Lung Cancer: From Biology to Therapeutic Impact. Cells. 2021 Nov