Anti-Adipose Triglyceride Lipase Antibody [JE37-49]

HA721951

Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Human, Mouse, Rat
Applications:	WB, IHC-P, IF-Tissue
Molecular Wt:	Predicted band size: 55 kDa
Clone number:	JE37-49

Description: Adipose triglyceride lipase, also known as patatin-like phospholipase domain-containing protein 2 and ATGL, is an enzyme that in humans is encoded by the PNPLA2 gene. ATGL catalyses the first reaction of lipolysis, where triacylglycerols are hydrolysed to diacylglycerols. ATGL has very high substrate specificity for triacylglycerols. It contains a catalytic dyad using serine-aspartic acid. ATGL catalyses the first reaction of lipolysis. It hydrolysis triacylglycerols to diacylglycerols by attacking the fatty acid attached to carbon-3 of glycerol. ATGL acts as a control mechanism of lipolysis, as variations in diacylglycerol concentration impact enzymes in later stages of lipolysis.

Immunogen: Recombinant protein within Human Adipose Triglyceride Lipase aa 330-450 / 504.

Positive control: SiHa cell lysate, HepG2 cell lysate, HEK-293 cell lysate, A431 cell lysate, Mouse heart tissue lysate, Rat heart tissue lysate, Mouse liver tissue lysate, Mouse white adipose tissue lysate, Mouse brown adipose tissue lysate, Rat brown adipose tissue lysate, mouse brown adipose tissue, rat breast tissue.

Subcellular location: Lipid droplet, Cell membrane, Cytoplasm.

Database links: SwissProt: Q96AD5 Human | Q8BJ56 Mouse | P0C548 Rat

Recommended Dilutions:

WB	1:1,000
IHC-P	1:500-1:2,000
IF-Tissue	1:200

Storage Buffer: 1*TBS (pH7.4), 0.05% 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

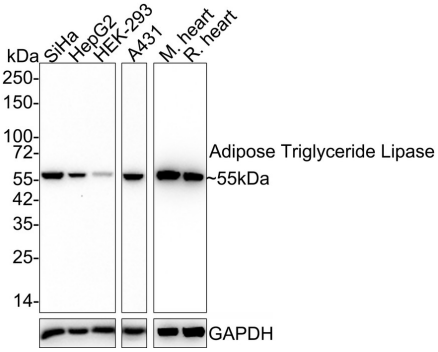

Fig1: Western blot analysis of Adipose Triglyceride Lipase on different lysates with Rabbit anti-Adipose Triglyceride Lipase antibody (HA721951) at 1/1,000 dilution.

Lane 1: SiHa cell lysate (30 µg/Lane)
Lane 2: HepG2 cell lysate (30 µg/Lane)
Lane 3: HEK-293 cell lysate (30 µg/Lane)
Lane 4: A431 cell lysate (30 µg/Lane)
Lane 5: Mouse heart tissue lysate (40 µg/Lane)
Lane 6: Rat heart tissue lysate (40 µg/Lane)

Predicted band size: 55 kDa
Observed band size: 55 kDa

Exposure time: Lane 1-4: 3 minutes; Lane 5-6: 5 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 (HA721951) at 1/1,000 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.

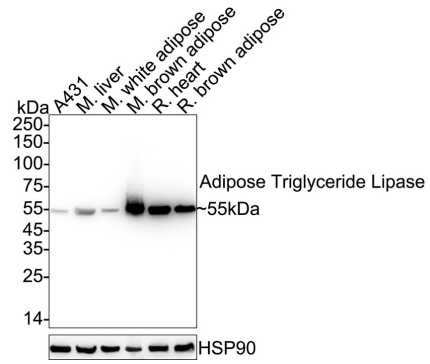

Fig2: Western blot analysis of Adipose Triglyceride Lipase on different lysates with Rabbit anti-Adipose Triglyceride Lipase antibody (HA721951) at 1/1,000 dilution.

Lane 1: A431 cell lysate (30 µg/Lane)
Lane 2: Mouse liver tissue lysate (40 µg/Lane)
Lane 3: Mouse white adipose tissue lysate (40 µg/Lane)
Lane 4: Mouse brown adipose tissue lysate (40 µg/Lane)
Lane 5: Rat heart tissue lysate (40 µg/Lane)
Lane 6: Rat brown adipose tissue lysate (40 µg/Lane)

Predicted band size: 55 kDa
Observed band size: 55 kDa

Exposure time: 10 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 (HA721951) at 1/1,000 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.

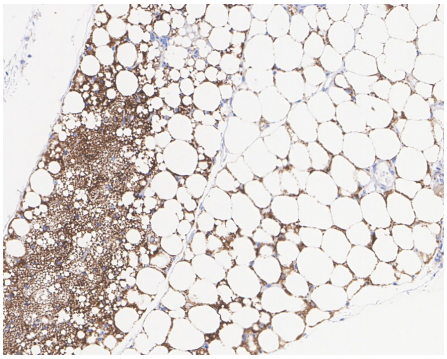

Fig3: Immunohistochemical analysis of paraffin-embedded mouse brown adipose tissue with Rabbit anti-Adipose Triglyceride Lipase antibody (HA721951) at 1/2,000 dilution.

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 (HA721951) at 1/2,000 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.

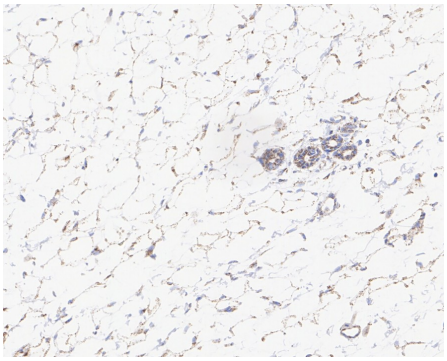

Fig4: Immunohistochemical analysis of paraffin-embedded rat breast tissue with Rabbit anti-Adipose Triglyceride Lipase antibody (HA721951) at 1/500 dilution.

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 (HA721951) at 1/500 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.

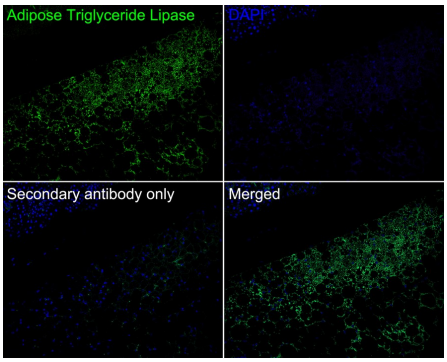

Fig5: Immunofluorescence analysis of paraffin-embedded mouse brown adipose tissue labeling Adipose Triglyceride Lipase with Rabbit anti-Adipose Triglyceride Lipase antibody (HA721951) at 1/200 dilution.

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 10% negative goat serum for 1 hour at room temperature, washed with PBS, and then probed with the primary antibody (HA721951, green) at 1/200 dilution overnight at 4 ℃, washed with PBS. Goat Anti-Rabbit IgG H&L (iFluor™ 488, HA1121) was used as the secondary antibody at 1/1,000 dilution. Nuclei were counterstained with DAPI (blue).

Background References

1. Fuchs CD et al. Hepatocyte-specific deletion of adipose triglyceride lipase (adipose triglyceride lipase/patatin-like phospholipase domain containing 2) ameliorates dietary induced steatohepatitis in mice. Hepatology. 2022 Jan
2. Li T et al. Adipose Triglyceride Lipase in Hepatic Physiology and Pathophysiology. Biomolecules. 2021 Dec