Anti-ULK1 Antibody [JA58-36] - BSA and Azide free

HA750418

Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Human, Mouse, Rat
Applications:	WB, IHC-P
Molecular Wt:	Predicted band size: 113 kDa
Clone number:	JA58-36

Description: Serine/threonine-protein kinase involved in autophagy in response to starvation. Acts upstream of phosphatidylinositol 3-kinase PIK3C3 to regulate the formation of autophagophores, the precursors of autophagosomes. Part of regulatory feedback loops in autophagy: acts both as a downstream effector and negative regulator of mammalian target of rapamycin complex 1 (mTORC1) via interaction with RPTOR. Activated via phosphorylation by AMPK and also acts as a regulator of AMPK by mediating phosphorylation of AMPK subunits PRKAA1, PRKAB2 and PRKAG1, leading to negatively regulate AMPK activity. May phosphorylate ATG13/KIAA0652 and RPTOR; however such data need additional evidences. Plays a role early in neuronal differentiation and is required for granule cell axon formation. May also phosphorylate SESN2 and SQSTM1 to regulate autophagy.

Immunogen: Synthetic peptide within Human ULK1 aa 930-979 / 1050.

Positive control: A-172 cell lysate, SH-SY5Y cell lysate, U-2 OS cell lysate, MCF7 cell lysate, mouse spleen tissue lysate, rat spleen tissue lysate, HepG2 cell lysate, C2C12 cell lysate, MEF cell lysate, PC-12 cell lysate, human spleen tissue, rat skeletal muscle tissue, human colon carcinoma tissue, mouse brain tissue.

Subcellular location: Cytosol, Preautophagosomal structure.

Database links: SwissProt: O75385 Human | O70405 Mouse | D3ZMG0 Rat

Recommended Dilutions:

WB	1:5,000
IHC-P	1:50-1:200

Storage Buffer: PBS (pH7.4).

Storage Instruction: Store at +4℃ after thawing. Aliquot store at -20℃ or -80℃. Avoid repeated freeze / thaw cycles.

Purity: Protein A affinity purified.

Images

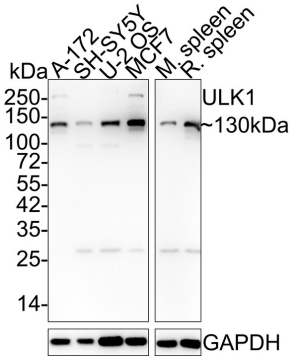

Fig1: Western blot analysis of ULK1 on different lysates with Rabbit anti-ULK1 antibody (HA750418) at 1/5,000 dilution.

Lane 1: A-172 cell lysate (15 µg/Lane)
Lane 2: SH-SY5Y cell lysate (15 µg/Lane)
Lane 3: U-2 OS cell lysate (15 µg/Lane)
Lane 4: MCF7 cell lysate (15 µg/Lane)
Lane 5: Mouse spleen tissue lysate (20 µg/Lane)
Lane 6: Rat spleen tissue lysate (20 µg/Lane)

Predicted band size: 113 kDa
Observed band size: 130 kDa

Exposure time: 1 minute 30 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 (HA750418) at 1/5,000 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.

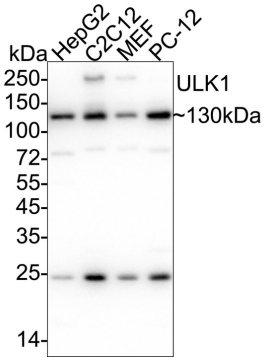

Fig2: Western blot analysis of ULK1 on different lysates with Rabbit anti-ULK1 antibody (HA750418) at 1/5,000 dilution.

Lane 1: HepG2 cell lysate
Lane 2: C2C12 cell lysate
Lane 3: MEF cell lysate
Lane 4: PC-12 cell lysate

Lysates/proteins at 20 µg/Lane.

Predicted band size: 113 kDa
Observed band size: 130 kDa

Exposure time: 6 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 (HA750418) at 1/5,000 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.

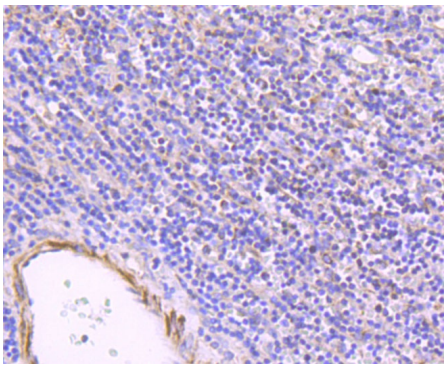

Fig3: Immunohistochemical analysis of paraffin-embedded human spleen tissue using anti-ULK1 antibody. The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 8.0-8.4) for 20 minutes.The tissues were blocked in 5% BSA for 30 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA750418, 1/50) for 30 minutes 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.

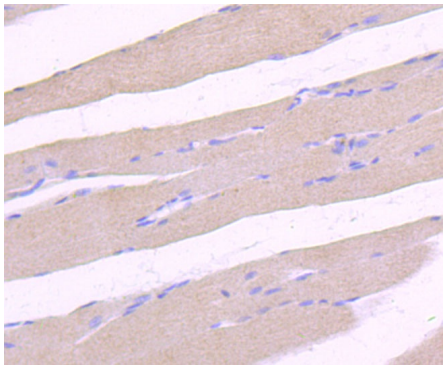

Fig4: Immunohistochemical analysis of paraffin-embedded rat skeletal muscle tissue using anti-ULK1 antibody. The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 8.0-8.4) for 20 minutes.The tissues were blocked in 5% BSA for 30 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA750418, 1/50) for 30 minutes 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.

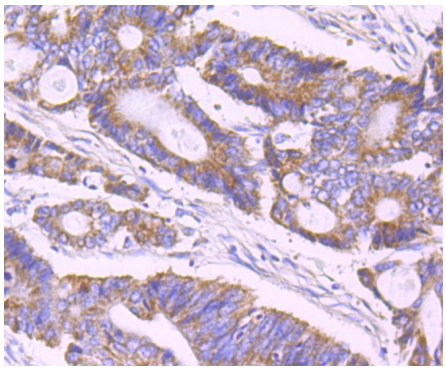

Fig5: Immunohistochemical analysis of paraffin-embedded human colon carcinoma tissue using anti-ULK1 antibody. The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 8.0-8.4) for 20 minutes.The tissues were blocked in 5% BSA for 30 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA750418, 1/50) for 30 minutes 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.

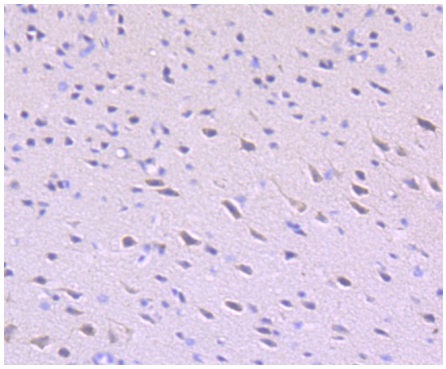

Fig6: Immunohistochemical analysis of paraffin-embedded mouse brain tissue using anti-ULK1 antibody. The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 8.0-8.4) for 20 minutes.The tissues were blocked in 5% BSA for 30 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA750418, 1/50) for 30 minutes 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. Desantis, A. et al. Che-1-induced inhibition of mTOR pathway enables stress-induced autophagy. The EMBO journal. 34: 1214-30 (2015).
2. Xiong, H. et al. Activation of miR-34a/SIRT1/p53 signaling contributes to cochlear hair cell apoptosis: implications for age-related hearing loss. Neurobiology of aging. 36: 1692-701 (2015).