

# Anti-Beclin 1 Antibody [JE59-31]

HA721216



<b>Product Type:</b>	Recombinant Rabbit monoclonal IgG, primary antibodies
<b>Species reactivity:</b>	Human, Mouse, Rat
<b>Applications:</b>	WB, IHC-P, IF-Cell
<b>Molecular Wt:</b>	Predicted band size: 52 kDa
<b>Clone number:</b>	JE59-31

**Description:** Beclin-1 is a protein that in humans is encoded by the BECN1 gene. Beclin-1 is a mammalian ortholog of the yeast autophagy-related gene 6 (Atg6) and BEC-1 in the *C. elegans* nematode. This protein interacts with either BCL-2 or PI3k class III, playing a critical role in the regulation of both autophagy and cell death. Beclin-1 plays an important role in tumorigenesis, and neurodegeneration, being implicated in the autophagic programmed cell death. Ovarian cancer with upregulated autophagy has a less aggressive behavior and is more responsive to chemotherapy. Schizophrenia is associated with low levels of Beclin-1 in the hippocampus of those affected, which causes diminished autophagy which in turn results in increased neuronal cell death. This protein is thought to play a role in multiple cellular processes, including tumorigenesis, neurodegeneration and apoptosis. Alternative splicing results in multiple transcript variants.

**Immunogen:** Recombinant protein within Human Beclin 1 aa 351-450 / 450.

**Positive control:** Raji, rat cerebellum tissue lysate, mouse cerebellum tissue lysate, human cerebellum tissue lysates, MG-63 cell lysate, NIH/3T3 cell lysate, C6 cell lysate, human colon carcinoma tissue, mouse brain tissue.

**Subcellular location:** Cytoplasm, Golgi apparatus, trans-Golgi network membrane, Endosome membrane, Endoplasmic reticulum membrane, Mitochondrion membrane, Endosome, Cytoplasmic vesicle, autophagosome.

**Database links:** SwissProt: Q14457 Human | O88597 Mouse | Q91XJ1 Rat

**Recommended Dilutions:**

<b>WB</b>	1:500
<b>IHC-P</b>	1:200
<b>IF-Cell</b>	1:250

**Storage Buffer:** 1\*TBS (pH7.4), 0.05% BSA, 40% Glycerol. Preservative: 0.05% Sodium Azide.

**Storage Instruction:** Store at +4°C after thawing. Aliquot store at -20°C. Avoid repeated freeze / thaw cycles.

**Purity:** Protein A affinity purified.

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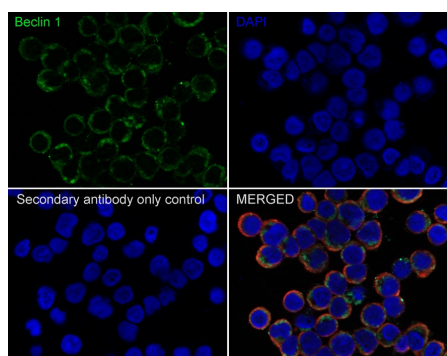
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## Images



**Fig1:** Immunocytochemistry analysis of Raji cells labeling Beclin 1 with Rabbit anti-Beclin 1 antibody (HA721216) at 1/250 dilution.

Cells were fixed in 80% precooled methanol for 5 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-Beclin 1 antibody (HA721216) at 1/250 dilution in 1% BSA in PBST overnight at 4 °C. 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 (M1305-2, red) was stained at 1/100 dilution overnight at +4°C. Goat Anti-Mouse IgG H&L (iFluor™ 594, HA1126) was used as the secondary antibody at 1/1,000 dilution.

**Fig2:** Western blot analysis of Beclin 1 on different lysates with Rabbit anti-Beclin 1 antibody (HA721216) at 1/500 dilution.

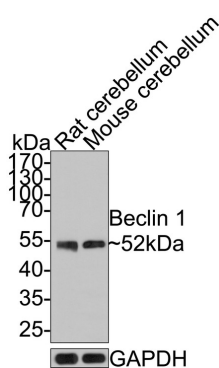
Lane 1: Rat cerebellum tissue lysate  
Lane 2: Mouse cerebellum tissue lysate

Lysates/proteins at 20 µg/Lane.

Predicted band size: 52 kDa  
Observed band size: 52 kDa

Exposure time: 2 minutes;

10% 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 (HA721216) at 1/500 dilution was used in 5% NFDM/TBST at room temperature for 2 hours. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1:300,000 dilution was used for 1 hour at room temperature.

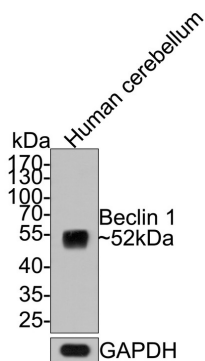
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**Fig3:** Western blot analysis of Beclin 1 on human cerebellum tissue lysates with Rabbit anti-Beclin 1 antibody (HA721216) at 1/500 dilution.

Lysates/proteins at 20 µg/Lane.

Predicted band size: 52 kDa

Observed band size: 52 kDa

Exposure time: 1 minute;

10% SDS-PAGE gel.

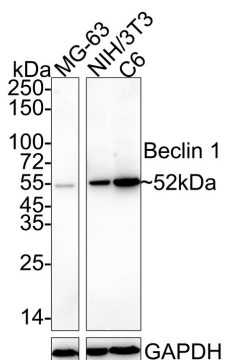
Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (HA721216) at 1/500 dilution was used in 5% NFDM/TBST at room temperature for 2 hours. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1:300,000 dilution was used for 1 hour at room temperature.

**Fig4:** Western blot analysis of Beclin 1 on different lysates with Rabbit anti-Beclin 1 antibody (HA721216) at 1/500 dilution.

Lane 1: MG-63 cell lysate

Lane 2: NIH/3T3 cell lysate

Lane 3: C6 cell lysate



Lysates/proteins at 20 µg/Lane.

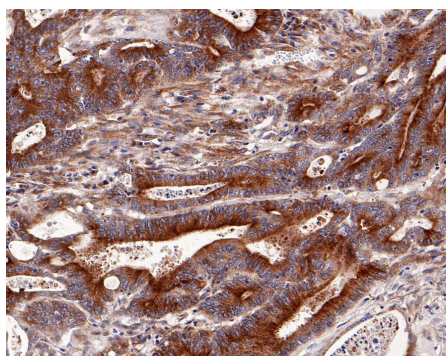
Predicted band size: 52 kDa

Observed band size: 52 kDa

Exposure time: 1 minute; ECL: K1802;

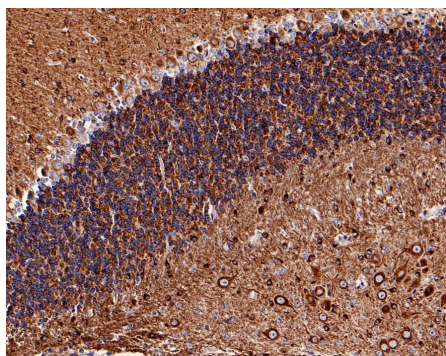
4-20% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (HA721216) at 1/500 dilution was used in 5% NFDM/TBST at 4°C overnight. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1/50,000 dilution was used for 1 hour at room temperature.



**Fig5:** Immunohistochemical analysis of paraffin-embedded human colon carcinoma tissue with Rabbit anti-Beclin 1 antibody (HA721216) 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<sub>2</sub>O and PBS, and then probed with the primary antibody (HA721216) 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.



**Fig6:** Immunohistochemical analysis of paraffin-embedded mouse brain tissue with Rabbit anti-Beclin 1 antibody (HA721216) 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<sub>2</sub>O and PBS, and then probed with the primary antibody (HA721216) 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.

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

### Background References

1. Hill SM et al. VCP/p97 regulates Beclin-1-dependent autophagy initiation. *Nat Chem Biol.* 2021 Apr
2. Liu Y et al. TLR9 and beclin 1 crosstalk regulates muscle AMPK activation in exercise. *Nature.* 2020 Feb

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