Anti-Alpha-Synuclein Antibody [JB42-33]

ET7107-31

Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Human
Applications:	WB, IF-Cell, IF-Tissue, IHC-P, IP, FC
Molecular Wt:	Predicted band size: 14 kDa
Clone number:	JB42-33

Description: Alpha-synuclein is a protein that, in humans, is encoded by the SNCA gene. Alpha-synuclein is a neuronal protein that regulates synaptic vesicle trafficking and subsequent neurotransmitter release. It is abundant in the brain, while smaller amounts are found in the heart, muscle and other tissues. In the brain, alpha-synuclein is found mainly in the axon terminals of presynaptic neurons. Within these terminals, alpha-synuclein interacts with phospholipids and proteins. Presynaptic terminals release chemical messengers, called neurotransmitters, from compartments known as synaptic vesicles. The release of neurotransmitters relays signals between neurons and is critical for normal brain function. The human alpha-synuclein protein is made of 140 amino acids. An alpha-synuclein fragment, known as the non-Abeta component (NAC) of Alzheimer's disease amyloid, originally found in an amyloid-enriched fraction, was shown to be a fragment of its precursor protein, NACP. It was later determined that NACP was the human homologue of Torpedo synuclein. Therefore, NACP is now referred to as human alpha-synuclein.

Immunogen: Recombinant full length protein of human Alpha Synuclein.

Positive control: SK-MEL-28 cell lysate, human brain tissue lysate, human brain tissue, human cerebellum tissue, Hela, SH-SY5Y.

Subcellular location: Secreted, nucleus, cytoplasm, membrane, synapse.

Database links: SwissProt: P37840 Human

Recommended Dilutions:

WB	1:2,000
IF-Cell	1:50-1:200
IHC-P	1:200-1:500
FC	1:50-1:100
IP	Use at an assay dependent concentration.

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). Store at -20℃ long term.

Purity: Protein A affinity purified.

Images

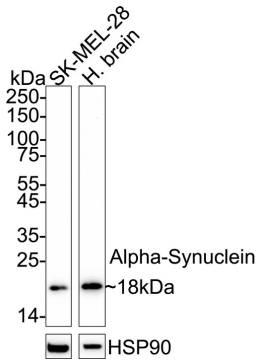

Fig1: Western blot analysis of Alpha-Synuclein on different lysates with Rabbit anti-Alpha-Synuclein antibody (ET7107-31) at 1/2,000 dilution.

Lane 1: SK-MEL-28 cell lysate (20 µg/Lane)
Lane 2: Human brain tissue lysate (40 µg/Lane)

Predicted band size: 14 kDa
Observed band size: 18 kDa

Exposure time: 3 minutes; 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 (ET7107-31) 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.

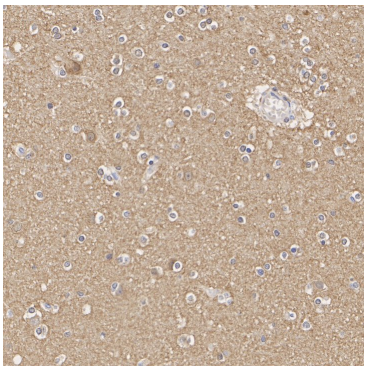

Fig2: Immunohistochemical analysis of paraffin-embedded human brain tissue with Rabbit anti-Alpha-Synuclein antibody (ET7107-31) at 1/200 dilution.

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 (ET7107-31) 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.

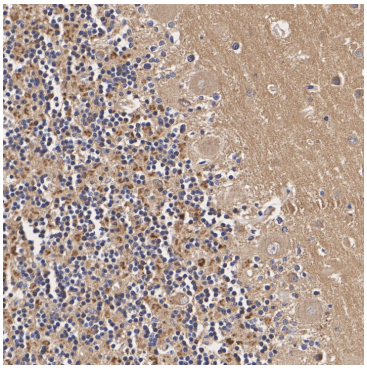

Fig3: Immunohistochemical analysis of paraffin-embedded human cerebellum tissue with Rabbit anti-Alpha-Synuclein antibody (ET7107-31) at 1/500 dilution.

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 (ET7107-31) 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.

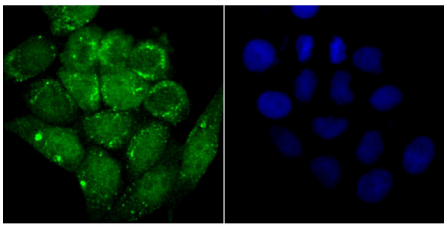

Fig4: ICC staining of Alpha-Synuclein in Hela cells (green). Formalin fixed cells were permeabilized with 0.1% Triton X-100 in TBS for 10 minutes at room temperature and blocked with 1% Blocker BSA for 15 minutes at room temperature. Cells were probed with the primary antibody (ET7107-31, 1/50) for 1 hour at room temperature, washed with PBS. Alexa Fluor®488 Goat anti-Rabbit IgG was used as the secondary antibody at 1/1,000 dilution. The nuclear counter stain is DAPI (blue).

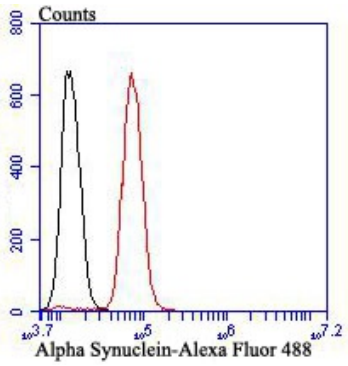

Fig5: Flow cytometric analysis of Alpha-Synuclein was done on SH-SY5Y cells. The cells were fixed, permeabilized and stained with the primary antibody (ET7107-31, 1/50) (red). After incubation of the primary antibody at room temperature for an hour, the cells were stained with a Alexa Fluor 488-conjugated Goat anti-Rabbit IgG Secondary antibody at 1/1000 dilution for 30 minutes.Unlabelled sample was used as a control (cells without incubation with primary antibody; black).

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

Background References

1. Waxman E A et al. Characterization of hydrophobic residue requirements for alpha-synuclein fibrillization. Biochemistry 48:9427-9436 (2009).
2. Krueger R et al. Ala30Pro mutation in the gene encoding alpha-synuclein in Parkinson's disease. Nat Genet 18:106-108 (1998).