

### Anti-Alpha-synuclein antibody [LB 509] ab27766

★★★★★ [12 Abreviews](#) [76 References](#) [3 Images](#)

#### Overview

<b>Product name</b>	Anti-Alpha-synuclein antibody [LB 509]
<b>Description</b>	Mouse monoclonal [LB 509] to Alpha-synuclein
<b>Host species</b>	Mouse
<b>Tested applications</b>	<b>Suitable for:</b> WB, Flow Cyt (Intra)
<b>Species reactivity</b>	<b>Reacts with:</b> Rat, Human, Recombinant fragment
<b>Immunogen</b>	Full length protein. This information is proprietary to Abcam and/or its suppliers.
<b>Epitope</b>	ab27766 reacts with an epitope located in the region encoded by amino acids 115-122 of alpha-synuclein.
<b>Positive control</b>	WB: Recombinant human Alpha-synuclein protein. Flow Cyt (Intra): PC12 (NGF differentiated) cells.
<b>General notes</b>	<p>Alpha-synuclein is expressed predominantly in the brain, where it is concentrated in presynaptic nerve terminals. The deposition of the abundant presynaptic brain protein alpha-synuclein as fibrillary aggregates in neurons or glial cells is a hallmark lesion in a subset of neurodegenerative disorders. These disorders include Parkinson's disease (PD), dementia with Lewy bodies (DLB) and multiple system atrophy, collectively referred to as synucleinopathies. Parkinson's disease (PD) is a common neurodegenerative disorder characterized by the progressive accumulation in selected neurons of protein inclusions containing alpha-synuclein and ubiquitin.</p> <p>This antibody clone is manufactured by Abcam. If you require a custom buffer formulation or conjugation for your experiments, please contact <a href="mailto:orders@abcam.com">orders@abcam.com</a>.</p> <p>The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing.</p> <p>If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&amp;As</p>

#### Properties

<b>Form</b>	Liquid
<b>Storage instructions</b>	Shipped at 4°C. Upon delivery aliquot and store at -20°C or -80°C. Avoid repeated freeze / thaw

	cycles.
<b>Storage buffer</b>	pH: 7.40 Preservative: 0.02% Sodium azide Constituents: PBS, 6.97% L-Arginine
<b>Purity</b>	Protein G purified
<b>Clonality</b>	Monoclonal
<b>Clone number</b>	LB 509
<b>Isotype</b>	IgG1

## Applications

**The Abpromise guarantee** Our **Abpromise guarantee** covers the use of ab27766 in the following tested applications. The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
<b>WB</b>	★★★★★ (3)	1/100 - 1/1000. Predicted molecular weight: 14 kDa.
<b>Flow Cyt (Intra)</b>		Use 1µg for 10 <sup>6</sup> cells. <b>ab170190</b> - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

## Target

<b>Function</b>	May be involved in the regulation of dopamine release and transport. Induces fibrillization of microtubule-associated protein tau. Reduces neuronal responsiveness to various apoptotic stimuli, leading to a decreased caspase-3 activation.
<b>Tissue specificity</b>	Expressed principally in brain but is also expressed in low concentrations in all tissues examined except in liver. Concentrated in presynaptic nerve terminals.
<b>Involvement in disease</b>	Genetic alterations of SNCA resulting in aberrant polymerization into fibrils, are associated with several neurodegenerative diseases (synucleinopathies). SNCA fibrillar aggregates represent the major non A-beta component of Alzheimer disease amyloid plaque, and a major component of Lewy body inclusions. They are also found within Lewy body (LB)-like intraneuronal inclusions, glial inclusions and axonal spheroids in neurodegeneration with brain iron accumulation type 1. Parkinson disease 1 Parkinson disease 4 Dementia Lewy body
<b>Sequence similarities</b>	Belongs to the synuclein family.
<b>Domain</b>	The 'non A-beta component of Alzheimer disease amyloid plaque' domain (NAC domain) is involved in fibrils formation. The middle hydrophobic region forms the core of the filaments. The C-terminus may regulate aggregation and determine the diameter of the filaments.
<b>Post-translational modifications</b>	Phosphorylated, predominantly on serine residues. Phosphorylation by CK1 appears to occur on residues distinct from the residue phosphorylated by other kinases. Phosphorylation of Ser-129 is selective and extensive in synucleinopathy lesions. In vitro, phosphorylation at Ser-129 promoted insoluble fibril formation. Phosphorylated on Tyr-125 by a PTK2B-dependent pathway upon osmotic stress.

Hallmark lesions of neurodegenerative synucleinopathies contain alpha-synuclein that is modified by nitration of tyrosine residues and possibly by dityrosine cross-linking to generated stable oligomers.

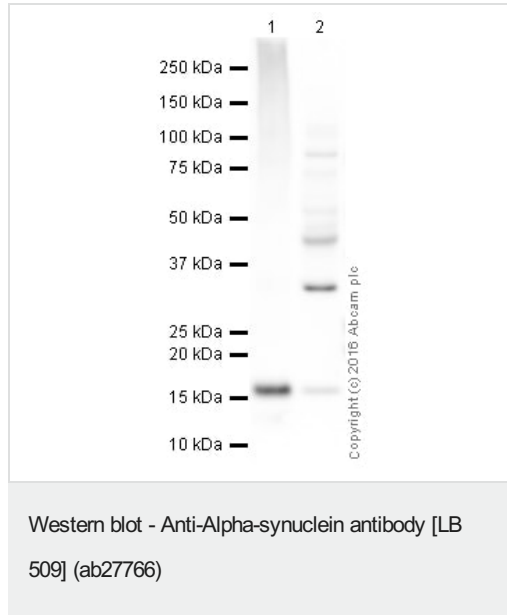
Ubiquitinated. The predominant conjugate is the diubiquitinated form.

Acetylation at Met-1 seems to be important for proper folding and native oligomeric structure.

## Cellular localization

Cytoplasm, cytosol. Membrane. Nucleus. Cell junction, synapse. Secreted. Membrane-bound in dopaminergic neurons.

## Images



**All lanes :** Anti-Alpha-synuclein antibody [LB 509] (ab27766) at 5  $\mu\text{g/ml}$

**Lane 1 :** Recombinant Human Alpha-synuclein protein (**ab51189**)

**Lane 2 :** Human brain hippocampus tissue lysate - total protein (**ab30180**)

Lysates/proteins at 10  $\mu\text{g}$  per lane.

### Secondary

**All lanes :** Goat polyclonal to Mouse IgG - H&L - Pre-Adsorbed (HRP) at 1/5000 dilution

Developed using the ECL technique.

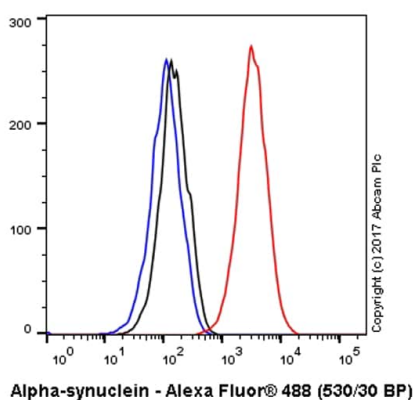
Performed under reducing conditions.

**Predicted band size:** 14 kDa

**Observed band size:** 16 kDa

**Additional bands at:** 32 kDa (possible dimer)

**Exposure time:** 20 minutes

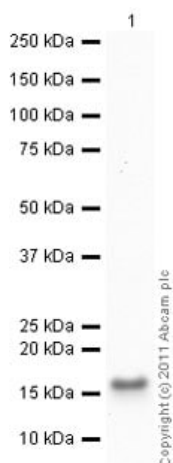


Flow Cytometry (Intracellular) - Anti-Alpha-synuclein antibody [LB 509] (ab27766)

Overlay histogram showing PC12 (NGF differentiated) cells stained with ab27766 (red line). The cells were fixed with 4% formaldehyde (10 min) and then permeabilized with 0.1% PBS-Triton X-100 for 15 min. The cells were then incubated in 1x PBS / 10% normal goat serum to block non-specific protein-protein interactions followed by the antibody (ab27766, 1 µg/1x10<sup>6</sup>) for 30 min at 22°C. The secondary antibody used was Goat Anti-Mouse IgG H&L (Alexa Fluor® 488) preadsorbed ([ab150117](#)) at 1/2000 dilution for 30 min at 22°C.

Isotype control antibody (black line) was Mouse IgG1 [15-6E10A7] ([ab170190](#)) used at the same concentration and conditions as the primary antibody. Unlabelled sample (blue line) was also used as a control.

Acquisition of >5,000 events were collected using a 50mW Blue laser (488nm) and 530/30 bandpass filter.



Western blot - Anti-Alpha-synuclein antibody [LB 509] (ab27766)

Anti-Alpha-synuclein antibody [LB 509] (ab27766) at 1/1000 dilution + Recombinant Human Alpha-synuclein protein ([ab51189](#)) at 0.1 µg

### Secondary

Goat Anti-Mouse IgG H&L (HRP) preadsorbed ([ab97040](#)) at 5000 µg

Developed using the ECL technique.

Performed under reducing conditions.

**Predicted band size:** 14 kDa

**Exposure time:** 8 minutes

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