

## Purified anti- $\alpha$ -Synuclein, aggregated Antibody

<b>Catalog# / Size</b>	865001 / 25 $\mu$ g 865002 / 100 $\mu$ g
<b>Clone</b>	A17183B
<b>Regulatory Status</b>	RUO
<b>Other Names</b>	Non-A beta component of AD amyloid, NACP, PARK1, Synuclein alpha-140, non-A4 component of amyloid, alpha-synuclein, isoform NACP140, non-amyloid beta component (NAP)
<b>Isotype</b>	Rat IgG2a, $\kappa$
<b>Description</b>	$\alpha$ -synuclein is expressed principally in the nervous system, but it is also produced in the other tissues, including the skin. In the brain, the protein is primarily neuronal, but it is also present in glia. Neuronal $\alpha$ -synuclein is concentrated in the presynaptic nerve terminals, interacts with plasma membrane phospholipids, and is also present in the nuclei and mitochondria. At least three isoforms of synuclein are produced through alternative splicing. The most common isoform is a 140 amino acid-long transcript. Other isoforms are $\alpha$ -synuclein-126, lacking residues 41-54; and $\alpha$ -synuclein-112, which lacks residues 103-130. $\alpha$ -synuclein's physiological role is poorly understood, but the protein has been implicated in regulating dopamine release and transport, synaptic vesicle clustering, and functioning as a SNARE-complex chaperone. $\alpha$ -Synuclein fibrils are a major component of the intracellular Lewy bodies that are associated with Parkinson's disease, Lewy body dementia, and multiple system atrophy.

### Product Details

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<b>Verified Reactivity</b>	Human
<b>Antibody Type</b>	Monoclonal
<b>Host Species</b>	Rat
<b>Immunogen</b>	Aggregated recombinant human alpha-synuclein
<b>Formulation</b>	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide.
<b>Preparation</b>	The antibody was purified by affinity chromatography.
<b>Concentration</b>	0.5 mg/ml
<b>Storage &amp; Handling</b>	The antibody solution should be stored undiluted between 2°C and 8°C.
<b>Application</b>	<a href="#">IHC-P - Quality tested</a>
<b>Recommended Usage</b>	Each lot of this antibody is quality control tested by formalin-fixed paraffin-embedded immunohistochemical staining. For immunohistochemistry, a concentration range of 0.5 - 5.0 $\mu$ g/mL for chromogenic staining and 0.1 - 2.0 $\mu$ g/mL for fluorescent staining is suggested. It is recommended that the reagent be titrated for optimal performance for each application.
<b>RRID</b>	AB_2810765 (BioLegend Cat. No. 865001) AB_2810766 (BioLegend Cat. No. 865002)

### Antigen Details

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<b>Structure</b>	Human $\alpha$ -synuclein is a 140 amino acid protein with a molecular mass of 14 kD.
<b>Distribution</b>	Tissue distribution: Primarily nervous system, but lower expression in other tissues such as blood and skin. Cellular distribution: Cytoskeleton, cytosol, lysosome, mitochondria, nucleus, plasma membrane, and extracellular.
<b>Function</b>	$\alpha$ -synuclein plays several roles in synaptic activity such as synaptic vesicle trafficking and

neurotransmitter release. It is also involved in the regulation of gene expression.

<b>Interaction</b>	Interacts with various proteins, such as UCHL1, phospholipase D, histones and SNARE components.
<b>Cell Type</b>	Neurons
<b>Biology Area</b>	Cell Biology, Mitochondrial Function, Neurodegeneration, Neuroinflammation, Neuroscience, Protein Misfolding and Aggregation, Protein Trafficking and Clearance, Synaptic Biology
<b>Molecular Family</b>	$\alpha$ -Synuclein, Presynaptic proteins, Synaptic Vesicle Trafficking/Endocytosis
<b>Antigen References</b>	<ol style="list-style-type: none"><li>1. Mor DE, <i>et al.</i> 2016. <i>Neurobiol. Dis.</i> 88:66.</li><li>2. Jucker M, Walker LC. 2013. <i>Nature.</i> 501(7465):45.</li><li>3. Bartels T, <i>et al.</i> 2011. <i>Nature.</i> 477(7362):107.</li><li>4. Devine MJ, <i>et al.</i> 2011. <i>Mov. Disord.</i> 26:2160.</li></ol>
<b>Gene ID</b>	<a href="#">6622</a>

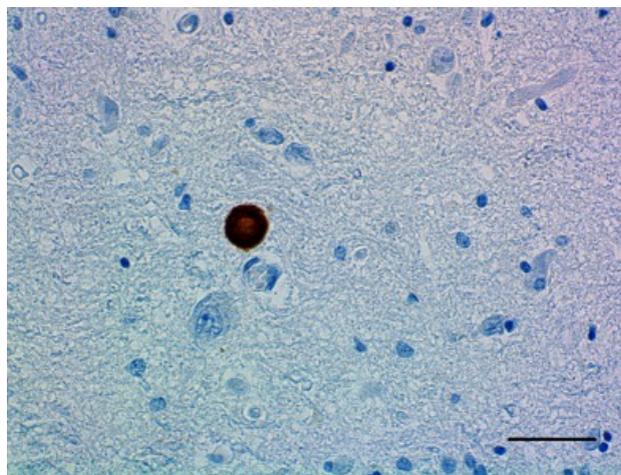
## Related Protocols

[Immunohistochemistry Protocol for Paraffin-Embedded Sections](#)

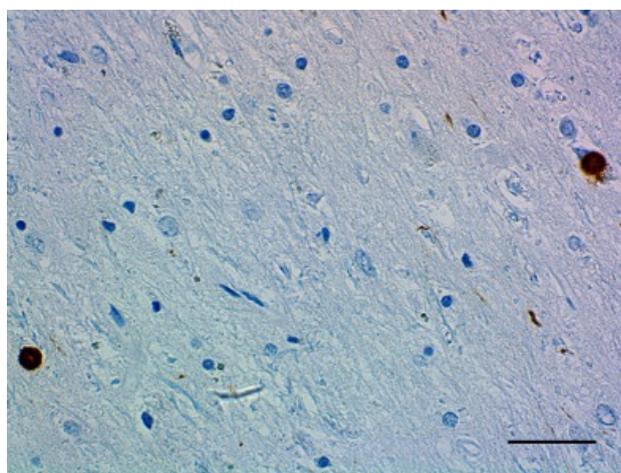
## Other Formats

Purified anti- $\alpha$ -Synuclein, aggregated, Biotin anti- $\alpha$ -Synuclein, aggregated

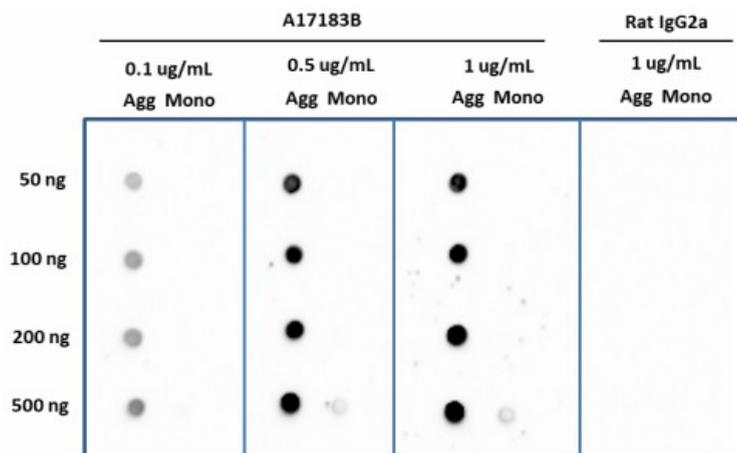
## Product Data



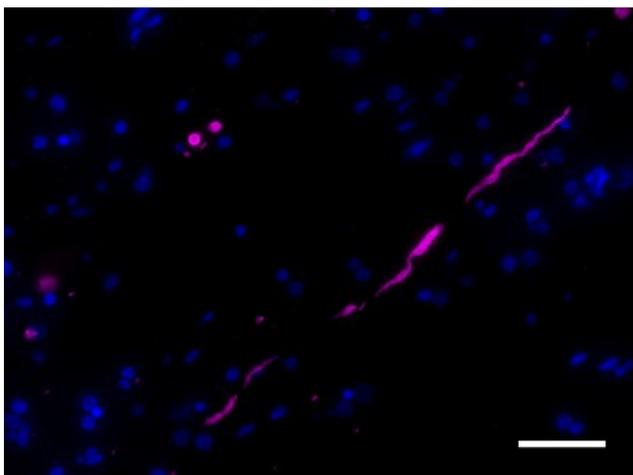
IHC staining of purified anti- $\alpha$ -Synuclein, aggregated antibody (clone A17183B) on formalin-fixed paraffin-embedded Parkinson's disease brain tissue. Following antigen retrieval using Sodium Citrate H.I.E.R., the tissue was incubated with 1  $\mu$ g/mL of the primary antibody overnight at 4°C. After incubation with biotinylated anti-rat antibody, the tissue was labeled with BioLegend's HRP labeling reagent followed by addition of DAB chromogen (Cat. No. 926506) for detection and hematoxylin counterstaining, according to the protocol provided. The image was captured with a 40X objective. Scale bar 50  $\mu$ m



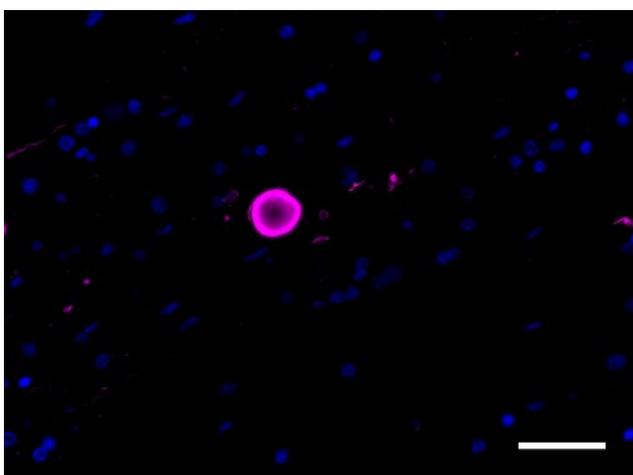
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Dot blot of purified anti- $\alpha$ -Synuclein, aggregated antibody (clone A17183B) on aggregated (Agg) or monomeric (Mono) recombinant human  $\alpha$ -Synuclein. The blots were incubated with 0.1-1.0  $\mu$ g/mL of the primary antibody or 1  $\mu$ g/ml of Rat IgG2a isotype control for 1 hour at room temperature, followed by incubation with HRP-labeled goat anti-rat IgG (Cat. No. 405405). Enhanced chemiluminescence was used as the detection system. Dot blot was used to demonstrate the specificity of this clone instead of WB.



IHC staining of purified anti- $\alpha$ -synuclein, aggregated antibody (A17183B) on formalin-fixed paraffin-embedded Parkinson's disease brain tissue. Following antigen retrieval using Sodium Citrate H.I.E.R., the tissue was incubated with 0.1  $\mu$ g/mL of the primary antibody overnight at 4°C, followed by incubation with Alexa Fluor® 674 goat anti-rat IgG (Cat. No. 405416) for one hour at room temperature. Nuclei were counterstained with DAPI. The image was captured with a 40X objective. Scale bar: 50  $\mu$ m



IHC staining of purified anti- $\alpha$ -synuclein, aggregated antibody (A17183B) on formalin-fixed paraffin-embedded Parkinson's disease brain tissue. Following antigen retrieval using Sodium Citrate H.I.E.R., the tissue was incubated with 0.5  $\mu$ g/mL of the primary antibody overnight at 4°C, followed by incubation with Alexa Fluor® 674 goat anti-rat IgG (Cat. No. 405416) for one hour at room temperature. Nuclei were counterstained with DAPI. The image was captured with a 40X objective. Scale bar: 50  $\mu$ m

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