**Purified anti-α-Synuclein**

**Catalog # / Size:**
- 834301 / 200 µl
- 834302 / 500 µl
- 834303 / 1 ml

**Previously:**
- Covance Catalog# SIG-39720
- Signet Catalog# 9720-02, 9720-05, 9720-10

**Clone:** 4D6

**Isotype:** Mouse IgG1

**Immunogen:** This antibody was developed using a purified, E. Coli produced human α-synuclein.

**Reactivity:** Human, Mouse, Rat

**Preparation:** The antibody was purified by affinity chromatography.

**Formulation:** Phosphate-buffered solution; no preservatives or carrier proteins.

**Concentration:** 1 mg/ml

**Storage:** The antibody solution should be stored undiluted between 2°C and 8°C. Please note the storage condition for this antibody has been changed from -20°C to between 2°C and 8°C. You can also check your vial or your CoA to find the most accurate storage condition for this antibody.

**Applications:**

**Applications:** ELISA, WB, IHC

**Recommended Usage:** Each lot of this antibody is quality control tested by ELISA assay.

The optimal working dilution should be determined for each specific assay condition.

- **WB:** 1:500-1,000
- **IHC:** 1:1,000-5,000
- **ELISA:** If using as a capture antibody, recommended concentration range is 5-10ug/ml. If using as a detection antibody, recommended concentration range is 1-10ug/ml.

**Tissue Sections:** Formalin-fixed human paraffin-embedded tissue sections, frozen tissue sections

**Pretreatment:** Formic acid (70%) for 10-30 minutes at room temperature

**Application Notes:** This antibody is effective in immunoblotting (WB), immunohistochemistry (IHC) and ELISA.

BioLegend's 4D6 reacts with human, mouse, and rat α-synuclein. It does not react with β-synuclein or γ-synuclein.

**Application References:**


Description: α-synuclein, Alpha-synuclein, is expressed principally in the central nervous system (brain) but is also expressed in low concentrations in a variety of tissues except liver. It is predominantly expressed in the neocortex, hippocampus, substantia nigra, thalamus, and cerebellum of the CNS. It is primarily a neuronal protein, but can also be found in the neuroglial cells. It is concentrated in presynaptic nerve terminals of neurons, as well as having reported nuclear and mitochondrial localization. α-synuclein interacts with plasma membrane phospholipids. α-synuclein in solution is considered to be an intrinsically disordered protein and thus lacks a stable secondary or tertiary structure. However, recent data suggests the presence of partial alpha helical as well as beta sheet structures as well as mostly structured tetrameric states in solution, the equilibrium of which may be altered by binding partners. The human α-synuclein protein is made of 140 amino acids, encoded by the SNCA gene. The primary structure is divided in three distinct domains: (1-60) - An amphipathic N-terminal region dominated by four 11-residue repeats including the consensus sequence KTKEGV. This sequence has a structural alpha helix propensity similar to apolipoproteins-binding domains. (61-95) - a central hydrophobic region which includes the non-amyloid-β component (NAC) region, involved in protein

*For research use only. Not for diagnostic use. Not for resale. BioLegend will not be held responsible for patent infringement or other violations that may occur with the use of our products.*

*These products may be covered by one or more Limited Use Label Licenses (see the BioLegend Catalog or our website, www.biolegend.com/ordering#license). BioLegend products may not be transferred to third parties, resold, modified for resale, or used to manufacture commercial products, reverse engineer functionally similar materials, or to provide a service to third parties without written approval of BioLegend. By use of these products you accept the terms and conditions of all applicable Limited Use Label Licenses. Unless otherwise indicated, these products are for research use only and are not intended for human or animal diagnostic, therapeutic or commercial use.*
aggregation. (96-140)- a highly acidic and proline-rich region. At least three isoforms of synuclein are produced through alternative splicing. The most common form of the protein, is the full 140 amino acid-long transcript. Other isoforms are alpha-synuclein-126, lacking residues 41-54; and α-synuclein-112, which lacks residues 103-130. α-synuclein may be involved in the regulation of dopamine release and transport and also may function to induce fibrilization of microtubule-associated protein tau. α-synuclein functions as a molecular chaperone in the formation of SNARE complexes. In particular, it can bind to phospholipids of the plasma membrane and to synaptobrevin-2 via its C-terminus domain to influence synaptic activity. α-synuclein is essential for normal development of the cognitive functions and that it significantly interacts with tubulin. It also reduces neuronal responsiveness to various apoptotic stimuli, leading to decreased caspase-3 activation. α-Synuclein fibrils are major substituent of the intracellular Lewy bodies seen in Parkinson's disease. Alpha-synuclein is a 140 amino acid protein that is implicated in Parkinson's disease, Alzheimer's disease, Lewy body dementia, and multiple system atrophy.

**Other Names:** Synuclein alpha-140, non-A4 component of amyloid, alpha-synuclein, isoform NACP 140, non-A beta component of AD amyloid Parkinson disease (autosomal dominant, Lewy body)

**Related Products:**

<table>
<thead>
<tr>
<th>Product Description</th>
<th>Clone</th>
<th>Application</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human α-Synuclein ELISA Kit</td>
<td></td>
<td>ELISA</td>
</tr>
<tr>
<td>Purified anti-α-Synuclein</td>
<td>Syn303</td>
<td>WB, IHC, IF, EM</td>
</tr>
<tr>
<td>Purified anti-α-Synuclein Phospho (Ser129)</td>
<td>P-syn/81A</td>
<td>IHC, IF</td>
</tr>
<tr>
<td>Purified anti-α-Synuclein, 103-108</td>
<td>4B12/Synuclein</td>
<td>ELISA, WB, IHC</td>
</tr>
<tr>
<td>Purified anti-α-Synuclein, 115-121</td>
<td>LB509</td>
<td>IHC, WB, ELISA</td>
</tr>
</tbody>
</table>

*For research use only. Not for diagnostic use. Not for resale. BioLegend will not be held responsible for patent infringement or other violations that may occur with the use of our products.

*These products may be covered by one or more Limited Use Label Licenses (see the BioLegend Catalog or our website, www.biolegend.com/ordering#license). BioLegend products may not be transferred to third parties, resold, modified for resale, or used to manufacture commercial products, reverse engineer functionally similar materials, or to provide a service to third parties without written approval of BioLegend. By use of these products you accept the terms and conditions of all applicable Limited Use Label Licenses. Unless otherwise indicated, these products are for research use only and are not intended for human or animal diagnostic, therapeutic or commercial use.

BioLegend Inc., 9727 Pacific Heights Blvd, San Diego, CA 92121 www.biolegend.com
Toll-Free Phone: 1-877-Bio-Legend (246-5343) Phone: (858) 768-5800 Fax: (877) 455-9587