



Qty: 100 µg/200 µL

Mouse anti-Nitrated α-Synuclein

Catalog No. 35-8300

Lot No.

## Mouse anti-Nitrated α-Synuclein

### FORM

This monoclonal antibody is supplied as a 200 µL aliquot at a concentration of 0.5 mg/mL in PBS, pH 7.4, containing 0.1% sodium azide. This antibody is highly purified from mouse ascites by protein A affinity.

**CLONE:** Syn 505

**ISOTYPE:** Mouse IgG

### IMMUNOGEN

Recombinant full-length oxidized human α-Synuclein, which shares 95% amino acid sequence homology with mouse and rat α-Synucleins.

### SPECIFICITY

This antibody reacts with the nitrated/oxidized and non-nitrated forms of human α-Synuclein protein.<sup>1</sup> Cross-reactivity with β- and γ-synucleins has not been observed in testing with bacterially-expressed and purified recombinant proteins.<sup>1</sup> On Western blots, it identifies the target band at ~18kDa.

### REACTIVITY

Reactivity has been confirmed with WT TNM, a recombinant wild-type form of α-Synuclein nitrated with tetranitromethane, and human brain extracts by Western blotting.<sup>1</sup> Reactivity has also been confirmed with mouse brain and spinal cord by immunocytochemistry and immunofluorescence.<sup>2</sup>

Sample	ELISA	Immuno-histochemistry (paraffin) <sup>1</sup>	Western Blotting	Immuno-fluorescence <sup>2</sup>	Immuno-cytochemistry <sup>2</sup>
Human	N/A	+++	+++	ND	ND
Mouse	N/A	ND	ND	+++	+++
Immunogen	+++	ND	ND	N/A	N/A

(Excellent +++, Good++, Poor +, No reactivity 0, Not applicable N/A, Not Determined ND)

### USAGE

Working concentrations for specific applications should be determined by the investigator. Appropriate concentrations will be affected by several factors, including secondary antibody affinity, antigen concentration, sensitivity of detection method, temperature and length of incubations, etc. The suitability of this antibody for applications other than those listed below has not been determined. The following concentration ranges are recommended starting points for this product.

**Immunohistochemistry<sup>1</sup>:** 1-5 µg  
**ELISA:** 0.1-1.0 µg/mL  
**Western Blotting:** 1-3 µg/mL  
**Immunofluorescence<sup>2</sup>:** 1-5 µg/mL  
**Immunocytochemistry<sup>2</sup>:** 1-5 µg/mL

### STORAGE

Store at 2-8°C for up to one month. Store at -20°C for long-term storage. Avoid repeated freezing and thawing.

(cont'd)

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**BACKGROUND**

$\alpha$ -synuclein belongs to the synuclein family, which also includes  $\beta$ - and  $\gamma$ -synuclein, and is predominantly expressed in neurons, concentrated at synaptic terminals.<sup>2</sup> Synucleins may be involved in the regulation of dopamine release and transport and the modulation of synaptic vesicle function.  $\alpha$ -synuclein is a small, presynaptic protein that is the major non-amyloid component of the pathological inclusions characteristic of a wide range of neurodegenerative disorders, collectively known as synucleinopathies.<sup>3</sup> Synucleinopathies include Parkinson's disease (PD), Lewy body variant of Alzheimer's disease (LBVAD), dementia with Lewy bodies (DLB), neurodegeneration with brain iron accumulation (NBIA-1), and multiple system atrophy (MSA).<sup>4</sup> Although  $\alpha$ -synuclein is a soluble protein, it polymerizes into filaments in vitro under a variety of conditions, lending more support to the finding that it is the major building block of the filaments that form Lewy bodies (LBs).<sup>3</sup>  $\alpha$ -synuclein is known to reduce the fibrillization of the microtubule-associated protein, tau, and to bind various targets such as 14-3-3, protein kinase C, synphilin-1, Elk, and Tat-binding protein 1.<sup>5</sup>

**REFERENCES**

1. Duda J et al. *Ann Neurol* 52:205-210,2002.
2. George JM et al. *Neuron* 15:361-372,1995.
3. Giasson BI, et al. *J Biol Chem* 274(12):7619-7622,1999.
4. Giasson B et al. *Neuron* 34: 521-533,2002.
5. Ahn,BH et al. *J Biol Chem* 277:12334-1242,2002.

**RELATED PRODUCTS**

<b>Product</b>	<b>Conjugate</b>	<b>Cat. No.</b>
Protein A	Sepharose <sup>®</sup> 4B	10-1041
rec-Protein G	Sepharose <sup>®</sup> 4B	10-1241

<b>Conjugate</b>	<b>ZyMAX<sup>™</sup> Goat x Rabbit IgG (H+L)</b>	<b>ZyMAX<sup>™</sup> Goat x Mouse IgG (H+L)</b>
Purified	81-6100	81-6500
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TRITC	81-6114	81-6514
Cy <sup>™</sup> 3	81-6115	81-6515
Cy <sup>™</sup> 5	81-6116	81-6516
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Biotin	81-6140	81-6540

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