α-Synuclein (human) monoclonal antibody (15G7)

Synuclein was originally identified in Torpedo californica as a small neuroprotein that localized to the nuclear envelope of neurons and to presynaptic nerve termini. The human homolog was initially termed NACP, a precursor protein to NAC (Non-Ab Component), because of its prevalence in amyloid plaques in Alzheimer's patients. Later, NACP was recognized as being α-synuclein (α-SYN), a 14kDa protein, belonging to the synuclein family of phosphoproteins that also includes: β-synuclein, γ-synuclein, and synoretin. α-SYN is recognized as a key component in the development and diagnosis of neurodegenerative synucleinopathic diseases (NSDs), such as Alzheimer's and Parkinson's disease. In the past five years, several genetic and post-translational modifications to α-SYN have been elucidated that have been linked to its collaboration in the formation of the classical Lewy bodies (LBs) or Lewy neurites that are associated with neurodegeneration. A study that shed more light on the neurogenesis of autorecessive synucleinopathies (ARSs) was the finding that α-SYN accumulation can occur due to mutations in the E3 ubiquitin ligase. ARSs only account for a small percentage of NSD. Thus the illustration that α-SYN has a high susceptibility to tyrosine nitration may be the key component in understanding the formation of LBs. Due to the chemical structure of α-SYN, tyrosine nitration readily leads to the formation of oligomers via covalent O,O'-dityrosine bonds (cross-linking). Nitrosylated, wild-type, α-SYN products thus form SDS-insoluble, heat-stable aggregates in vitro that may account for α-SYN inclusions in all forms of NSDs.

This antibody is covered by our Worry-Free Guarantee.

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ALX-804-258-LC05	0.5ml
ALX-804-258-L001	1ml

Manuals, SDS & CofA View Online »

Handling & Storage

Handling	Aliquot diluted antibody into smaller volumes prior to freezing. Avoid freeze/thaw cycles.
Short Term Storage	+4°C
Long Term Storage	-20°C
Shipping	Blue Ice

Regulatory Status

RUO - Research Use Only

Product Details

Application	IHC (FS), IHC (PS), IP, WB
Clone	15G7
Crossreactivity	Does not cross-react with mouse α-synuclein or recombinant β- or γ-synuclein.
Formulation	Liquid. Hybridoma supernatant containing 0.05% sodium azide.
Host	Rat
Immunogen	Synthetic peptide corresponding to aa 116-131 of human α-synuclein.
Isotype	IgG2a
Recommendation Dilutions/Conditions	Immunohistochemistry (paraffin sections, 1:5-1:10)Western Blot (1:5)Suggested dilutions/conditions may not be available for all applications.Optimal conditions must be determined individually for each application.
Species Reactivity	Human
UniProt ID	P37840
Worry-free Guarantee	**This antibody is covered by our Worry-Free Guarantee .**

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