

PRODUCT INFORMATION



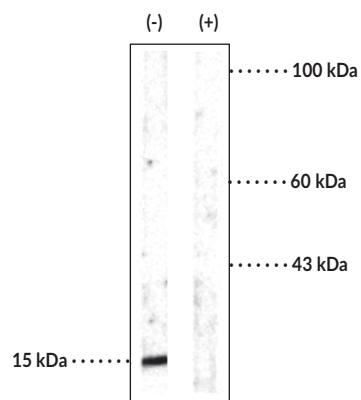
α -Synuclein (Phospho-Ser¹²⁹) Polyclonal Antibody

Item No. 29252

Overview and Properties

Contents:	This vial contains 100 μ l of affinity-purified rabbit polyclonal antibody.
Synonyms:	SNCA, α -Syn
Immunogen:	Phosphopeptide corresponding to amino acid residues surrounding phospho-Ser ¹²⁹ of rat α -synuclein
Molecular Weight:	~15 kDa
Species Reactivity:	(+) Human, mouse, and rat; other species not tested
Form:	Liquid
Storage:	-20°C (as supplied)
Stability:	\geq 1 year
Storage Buffer:	10 mM HEPES, pH 7.5, with 150 mM sodium chloride, 100 μ g BSA per ml, and 50% glycerol
Host:	Rabbit
Applications:	Immunohistochemistry (IHC) and (WB); the recommended starting dilution for IHC is 1:200 and is 1:1,000 for WB. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

Image



(-): WB of rat cortical lysate showing specific immunolabeling of the ~15 kDa α -synuclein protein phosphorylated at Ser¹²⁹.
(+): Phosphospecificity is shown where the immunolabeling is blocked by the phosphopeptide used as antigen but not by the corresponding non-phosphopeptide (not shown).

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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Description

α -Synuclein is a 140-amino acid intracellular protein encoded by the *SNCA* gene in humans.¹ It is primarily localized to the synaptic terminal of neurons in both the central and peripheral nervous systems where it has a role in regulation of synaptic vesicle docking and neurotransmitter release.² α -Synuclein is an intrinsically disordered, multi-domain protein.^{1,3} It exists as monomer in the cytoplasm, however, mutations, posttranslational modifications, and changes in cellular environmental conditions can induce oligomerization and aggregate formation that lead to various pathologies, including Parkinson's disease, Lewy body disease, multiple system atrophy (MSA), and amyotrophic lateral sclerosis (ALS). Phosphorylation of α -synuclein at serine 129 (Ser¹²⁹) is increased in response to mitochondrial stress and is reduced by lysosome inhibition in SH-SY5Y cells.⁴ It enhances α -synuclein-induced neurotoxicity in *Drosophila* and rat models of Parkinson's disease.^{4,5} Levels of phosphorylated Ser¹²⁹ (phospho-Ser¹²⁹) are increased in Lewy bodies in postmortem brains from patients with Parkinson's disease and Lewy body disease compared with control individuals.⁴⁻⁶ Cayman's α -Synuclein (Phospho-Ser¹²⁹) Polyclonal Antibody can be used for immunohistochemistry (IHC) and Western blot (WB) applications. The antibody recognizes α -synuclein (phospho-Ser¹²⁹) at approximately 15 kDa from human, mouse, and rat samples.

References

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2. Rocha, E.M., De Miranda, B., and Sanders, L.H. Alpha-synuclein: Pathology, mitochondrial dysfunction and neuroinflammation in Parkinson's disease. *Neurobiol. Dis.* **109(Pt B)**, 249-257 (2017).
3. Bendor, J.T., Logan, T.P., and Edwards, R.H. The function of α -synuclein. *Neuron* **79(6)**, 1044-1066 (2013).
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6. Anderson, J.P., Walker, D.E., Goldstein, J.M., et al. Phosphorylation of Ser-129 is the dominant pathological modification of α -synuclein in familial and sporadic Lewy body disease. *J. Biol. Chem.* **281(40)**, 29739-29752 (2006).

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