

# Alpha Synuclein Protein

Active Mouse Recombinant Alpha  
Synuclein Protein Monomer  
Catalog No. SPR-323



Discovery through partnership | Excellence through  
quality

## Product Name

Alpha Synuclein Protein

## Description

Active Mouse Recombinant Alpha Synuclein Protein Monomer

## Applications

WB, SDS-PAGE, In vivo assay, In vitro assay

## Concentration

Lot/batch specific. See included datasheet.

## Conjugates

No tag

## Nature

Recombinant

## Species

Mouse

## Expression System

E. coli

## Amino Acid Sequence

MDVFMKGLSK AKEGVVAAAE KTKQGVAEAA GKTKEGVLYV GSKTKEGVVH GVTTVAEKTQ EQVTNV  
GGAV VTGVTAVAQK TVEGAGNIAA ATGFVKKDQM GKGEEGYPQE GILEDMPVDP GSEAYEMPSE E  
GYQDYEP EA

## Purity

>95%

## Protein Length

## Full Length

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### Biological Activity

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100  $\mu$ M alpha synuclein protein monomer (SPR-323) seeded with 10 nM alpha synuclein protein aggregate (SPR-324) in 25  $\mu$ M Thioflavin T (PBS pH 7.4, 100  $\mu$ l reaction volume) generated an increased fluorescence intensity after incubation at 37° C with shaking at 600 rpm for 24 hours. Fluorescence was measured by excitation at 450 nm and emission at 485 nm on a Molecular Devices Gemini XPS microplate reader.

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### Field Of Use

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Not for use in humans. Not for use in diagnostics or therapeutics. For in vitro research use only.

## Properties

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### Storage Buffer

PBS

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### Storage Temperature

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-80°C

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### Shipping Temperature

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Dry Ice. Shipping note: Product will be shipped separately from other products purchased in the same order.

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### Purification

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Ion-exchange Purified

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### Specificity

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~14.46 kDa

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### Cite This Product

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Mouse Recombinant Alpha Synuclein Protein (StressMarq Biosciences Inc., Victoria BC CANADA, Catalog # SPR-323)

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### Certificate Of Analysis

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Certified >95% pure using SDS-PAGE analysis.

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## Biological Description

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## Alternative Names

Alpha synuclein pre-formed fibrils, Alpha synuclein aggregates, Alpha synuclein protein aggregates, Active Alpha synuclein aggregates, Alpha-synuclein protein, Non-A beta component of AD amyloid protein, Non-A4 component of amyloid precursor protein, NACP protein, SNCA protein, NACP protein, PARK1 protein, Alpha synuclein monomers, SYN protein, Parkinson disease familial 1 Protein

## Research Areas

Alzheimer's Disease, Neurodegeneration, Neuroscience, Parkinson's Disease

## Cellular Localization

Cytoplasm, Membrane, Nucleus

## Accession Number

NP\_001035916.1

## Gene ID

20617

## Swiss Prot

O55042

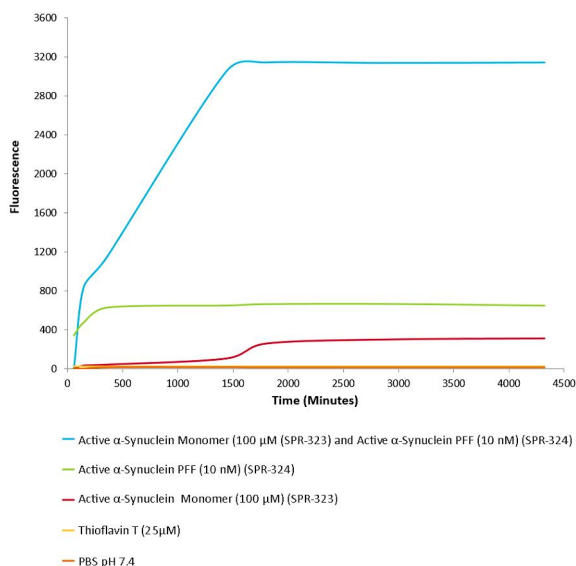
## Scientific Background

Alpha-Synuclein (SNCA) is expressed predominantly in the brain, where it is concentrated in presynaptic nerve terminals (1). Alpha-synuclein is highly expressed in the mitochondria of the olfactory bulb, hippocampus, striatum and thalamus (2). Functionally, it has been shown to significantly interact with tubulin (3), and may serve as a potential microtubule-associated protein. It has also been found to be essential for normal development of the cognitive functions; inactivation may lead to impaired spatial learning and working memory (4). SNCA fibrillar aggregates represent the major non A-beta component of Alzheimers disease amyloid plaque, and a major component of Lewy body inclusions, and Parkinson's disease. Parkinson's disease (PD) is a common neurodegenerative disorder characterized by the progressive accumulation in selected neurons of protein inclusions containing alpha-synuclein and ubiquitin (5, 6).

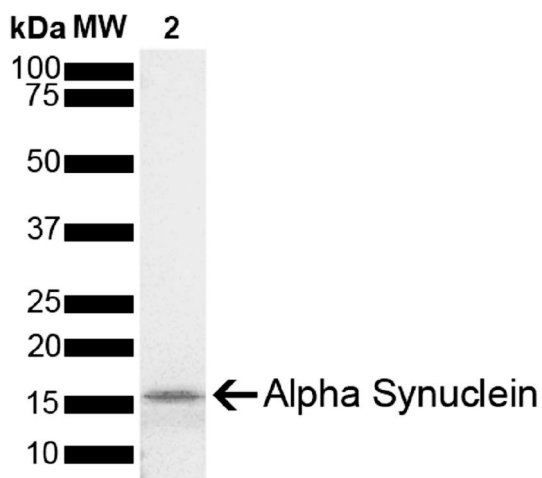
## References

1. "Genetics Home Reference: SNCA". US National Library of Medicine. (2013).
2. Zhang L., et al. (2008) Brain Res. 1244: 40-52.
3. Alim M.A., et al. (2002) J Biol Chem. 277(3): 2112-2117.
4. Kokhan V.S., Afanasyeva M.A., Van'kin G. (2012) Behav. Brain. Res. 231(1): 226-230.
5. Spillantini M.G., et al. (1997) Nature. 388(6645): 839-840.
6. Mezey E., et al. (1998) Nat Med. 4(7): 755-757.

## Product Images



Active alpha synuclein preformed fibrils (SPR-324) seed the formation of new alpha synuclein fibrils from the pool of active alpha synuclein monomers (SPR-323). Thioflavin T is a fluorescent dye that binds to beta sheet-rich structures, such as those in alpha synuclein fibrils. Upon binding, the emission spectrum of the dye experiences a red-shift, and increased fluorescence intensity. Thioflavin T emission curves show increased fluorescence (correlated to alpha synuclein protein aggregation) over time when 10 nM of active alpha synuclein preformed fibrils (SPR-324) is combined with 100  $\mu$ M of active alpha synuclein monomer (SPR-323), as compared to active alpha synuclein preformed fibrils (SPR-324) and active alpha synuclein monomer (SPR-323) alone. Thioflavin T  $\text{ex} = 450 \text{ nm}$ ,  $\text{em} = 485 \text{ nm}$ .



SDS-PAGE of ~14 kDa Active Mouse Recombinant Alpha Synuclein Protein Monomer (SPR-323). Lane 1: Molecular Weight Ladder (MW). Lane 2: Active Alpha Synuclein Protein Monomer (2 µg) (SPR-323).

## Product Citations (0)

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Currently there are no citations for this product.

## Reviews

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There are no reviews yet.