Alpha Synuclein Protein

Active Rat Recombinant Alpha Synuclein Protein Preformed Fibrils
Catalog No. SPR-482

StressMarq Biosciences INC.
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Product Name

Alpha Synuclein Protein

Description

Active Rat Recombinant Alpha Synuclein Protein Preformed Fibrils

Applications

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

Concentration

Lot/batch specific. See included datasheet.

Conjugates

No tag

Nature

Recombinant

Species

Rat

Expression System

E. coli

Amino Acid Sequence

MDVFMKGLSKAKEGVVAAAEKTKQGVAEAAGKTKEGVLYVGSKTKEGVVHGVTTVAEKTK EQVTNVGGAVVTGVTAVAQKTV EGAGNIAAATGFVKKDQMGKGEEGYPQEGILEDMPVDP SSEAYEMPSEEGYQDYEPEA

Purity

>95%

Protein Length

Full Length

Field Of Use

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

Properties

Storage Buffer

PBS pH 7.4

Storage Temperature

-80ºC

Shipping Temperature

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

Purification

Ion-exchange Purified

Cite This Product

Rat Recombinant Alpha Synuclein Protein (StressMarq Biosciences Inc., Victoria BC CANADA, Catalog # SPR-482B)

Certificate Of Analysis

Certified >95% pure using SDS-PAGE analysis.

Biological Description

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, SYN protein, Parkison disease familial 1 Protein

Research Areas

Alzheimer's Disease, Neurodegeneration, Neuroscience, Parkinson's Disease, Synuclein, Tangles & Tau

Cellular Localization

Cytoplasm, Membrane, Nucleus

Accession Number

NP_062042.1

Gene ID

29219

Swiss Prot

P37377

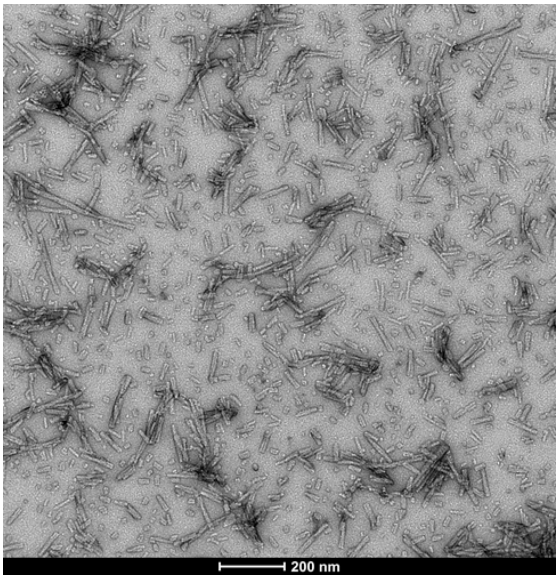
Scientific Background

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). The A53T mutation is a missense point mutation where alanine is replaced by threonine at the 53rd amino acid. This mutation has been linked to early-onset Parkinson's Disease and increased rates of alpha synuclein fibrillization.

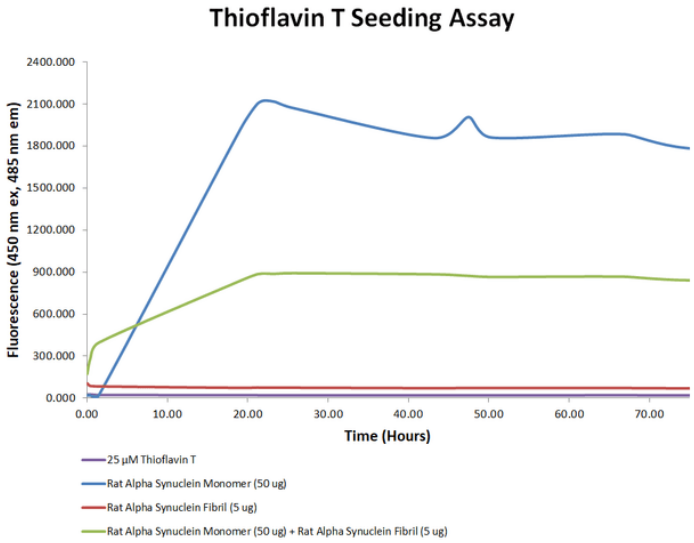
References

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.
7. Polymeropoulos, M. H. (1998). Science. 276(5321), 2045–2047
8. Conway, K.E., et al. (1998). Nat Med. 4(11):1318-20

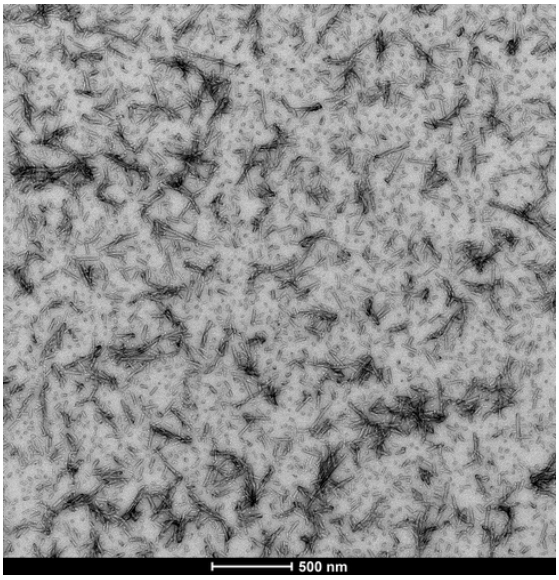
Product Images



TEM of Rat Alpha Synuclein Preformed Fibrils (PFFS) (SPR-482). 200nm



Thioflavin T is a fluorescent dye that binds to beta sheet-rich structures, such as those in alpha synuclein monomers and fibrils. Upon binding, the emission spectrum of the dye experiences a red-shift, and increased fluorescence intensity. The Rat Alpha Synuclein monomer (SPR-481) is very active and was able to form more beta-sheet structure alone than with the combination of monomer and fibril. In combination, the fibril (SPR-482) is the majority of the seed.



TEM of Rat Alpha Synuclein Preformed Fibrils (PFFS) (SPR-482). 500nm

Product Citations (0)

Currently there are no citations for this product.

Reviews

There are no reviews yet.

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