

Alpha Synuclein S87N Mutant Monomers



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Human Recombinant Alpha Synuclein S87N
Mutant Monomers
Catalog No. SPR-499

distributed in the US/Canada by:

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Product Name

Alpha Synuclein S87N Mutant Monomers

Description

Human Recombinant Alpha Synuclein S87N Mutant Monomers

Applications

WB, SDS PAGE, In vitro Assay

Concentration

Lot/batch specific. See included datasheet.

Conjugates

No tag

Nature

Recombinant

Species

Human

Expression System

E. coli

Amino Acid Sequence

MDVFMKGLSKAKEGVVAAAEKTKQGVAEAAGKTKGVLYVGSKTKEGVWHGVATVAEKTKEQVTNVGGAVVTGVTAVAQKTV
EGAGNIAAATGFVKKDQLGKNEEGAPQEGILEDMPVDPDNEAYEMPSEEGYQDYEPEA

Purity

>95%

Other Resources

Protein Length

140 AA

Field Of Use

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

Properties

Storage Buffer

1X PBS pH 7.4

Storage Temperature

-80°C

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

Human Recombinant Alpha Synuclein S87N Monomers (StressMarq Biosciences Inc., Victoria BC CANADA, Catalog # SPR-499)

Certificate Of Analysis

Protein certified >95% pure on SDS-PAGE & Nanodrop analysis

Biological Description

Alternative Names

Alpha Synuclein S87N, Alpha synuclein protein, 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, Parkinson's disease familial 1 Protein

Research Areas

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

Accession Number

NP_000336.1

Gene ID

6622

Swiss Prot

P37840-1

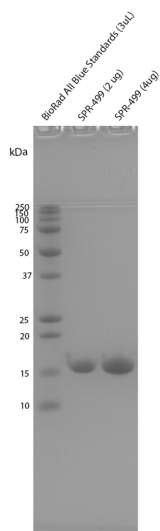
Scientific Background

Human alpha synuclein S87N mutant (HuS87N) has Ser87 mutated to the equivalent mouse residue Asn87, effectively making it a human-mouse chimeric protein. Despite sequence differences at only seven residues, or 5% of the total 140 amino acids, the aggregation rate of wild-type mouse α -syn (MsWT) is faster than wild-type human α -syn (HuWT) in vitro. In wild-type mouse models, MsWT fibrils are more efficient than HuWT fibrils at inducing pathology of endogenous mouse α -syn (1). A53T or S87N substitutions in human α -syn substantially accelerate fibrilization rates in vitro (2,3). Chimeric HuS87N fibrils show enhanced pathogenicity to wild-type mouse neurons, greater than HuWT, HuA53T, and MsWT fibrils (4). HuS87N fibrils can be used as a more human-like alternative to MsWT fibrils to induce equivalent or greater endogenous α -syn seeding and pathology in wild-type mice. +

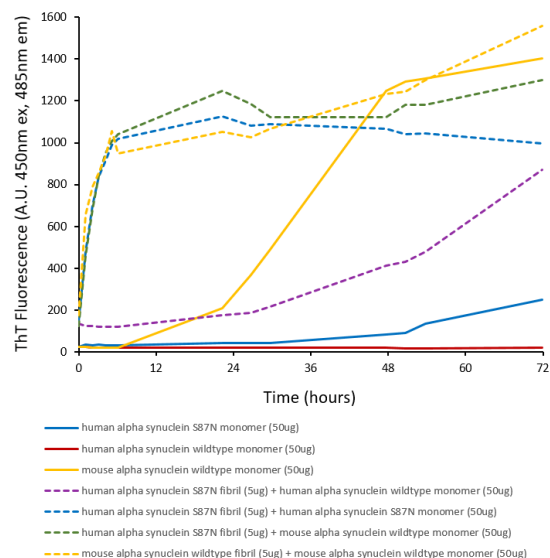
References

1. Masuda-Suzukake et al. 2013. Prion-like Spreading of Pathological α -synuclein in Brain. *Brain*. <https://doi.org/10.1093/brain/awt037>
2. Kang, K. et al. 2011. The A53T Mutation is Key in Defining the Differences in the Aggregation Kinetics of Human and Mouse α -synuclein. *JACS*. <https://doi.org/10.1021/ja203979j>
3. Ohgita, T. et al. 2023. Intramolecular Interaction Kinetically Regulates Fibril Formation by Human and Mouse Alpha-Synuclein. *Sci Rep* <https://doi.org/10.1038/s41598-023-38070-4>
4. Luk, K., C. et al. 2016. Molecular and Biological Compatibility with Host Alpha-Synuclein Influences Fibril Pathogenicity. *Cell Rep*. <https://doi.org/10.1016/j.celrep.2016.08.053>

Product Images



SDS-PAGE of human alpha synuclein S87N monomer under reducing conditions showing the protein purity. Lane 1: Biorad All Blue Standards (3uL), Lane 2: human alpha synuclein S87N monomer (2ug), lane 3: human alpha synuclein S87N monomer (4ug).



Fibril formation and seeding activity of human alpha synuclein S87N mutant measured by ThT in vitro. Human S87N mutant monomers self-aggregate faster than human wild-type monomers. Human S87N mutant pre-formed fibrils rapidly seed S87N mutant monomers and mouse wild-type monomers. Human S87N mutant fibrils also seed human wild-type monomers, although less aggressively than mouse wild-type monomers.

Product Citations (0)

Currently there are no citations for this product.

Reviews

There are no reviews yet.