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See the following pages for more information!

Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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Alpha Synuclein S87N Mutant Pre-formed Fibrils

Discovery through Partnership | Excellence through Quality

Human Recombinant Alpha Synuclein S87N Mutant Pre-formed Fibrils
Catalog No. SPR-500

Product Name

Alpha Synuclein S87N Mutant Pre-formed Fibrils

Description

Human Recombinant Alpha Synuclein S87N Mutant Pre-formed Fibrils

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

MDVFMKGLSKAKEGVVAAAEKTKQGVAEAAGKTKEGVLYVGSKTKEGVVHGVATVAEKTKEQVTNVGGAVVTGVTAVAQ
KTVEGAGNIAAATGFVKKDQLGKNEEGAPQEGILEDMPVDPDNEAYEMPSEEGYQDYEPEA

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

-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

Human Recombinant Alpha Synuclein S87N Mutant Pre-formed Fibrils (StressMarq Biosciences Inc., Victoria BC CANADA, Catalog # SPR-500)

Certificate Of Analysis

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

Biological Description

Alternative Names

MAPT, 2N4R, Tau40 neurofibrillary tangle protein, paired-helical filament, PHFs, SNCA, NACP, PARK1, asyn, alpha-synuclein, pre-formed fibril, PFFs, mixed fibrils

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

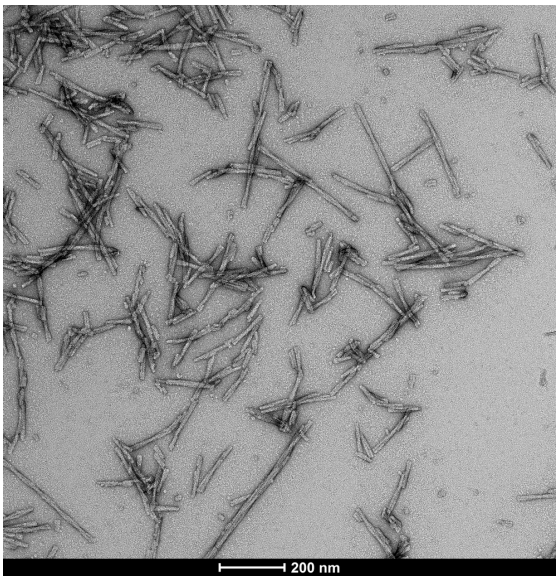
Scientific Background

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 endogenous mouse α-syn pathology (1). A53T or S87N substitutions in human α-syn substantially accelerate fibrilization rates in vitro (2,3). Chimeric HuS87N fibrils show enhanced induction of α-syn pathology greater than both HuWT and MsWT fibrils in mice neuron cultures (4). Therefore, HuS87N is a good construct for inducing robust endogenous α-syn seeding and pathology in wild-type mice/cultures.

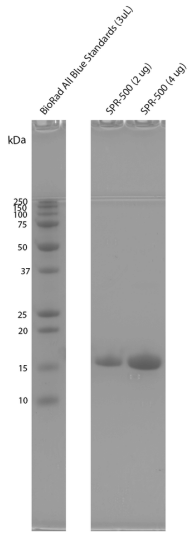
References

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

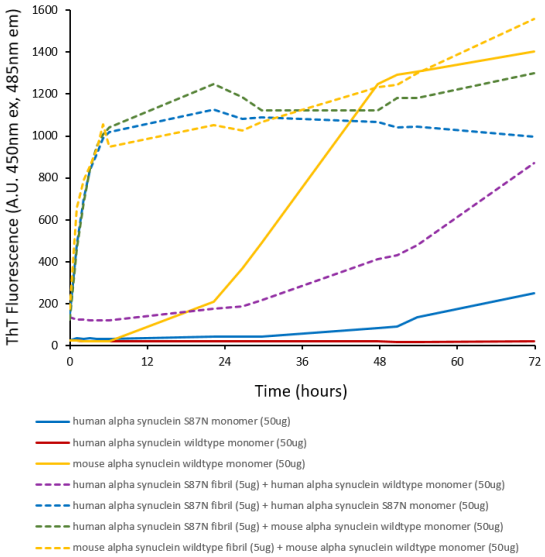
Product Images



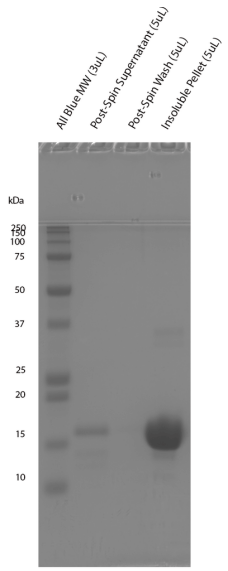
TEM of human alpha synuclein S87N fibrils. Negative stain transmission electron microscopy images acquired at 80 Kv on carbon coated 400 mesh copper grids using phosphotungstic acid and uranyl acetate stain. Scale bar = 200 nm. Method: Samples were prepared for examination in the transmission electron microscope using the 'direct application method' (Doane and Anderson 1987).



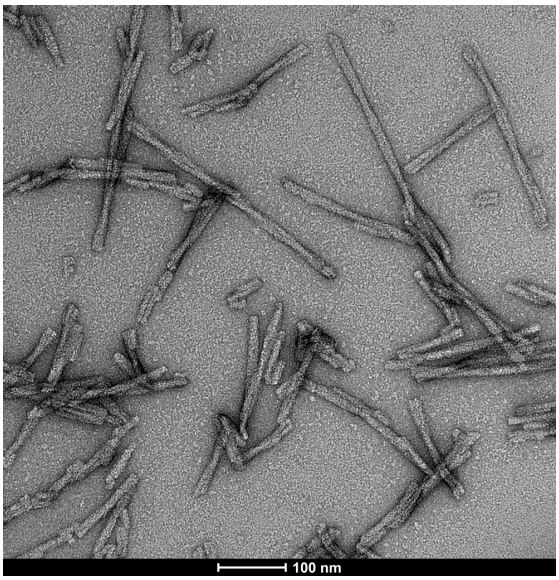
SDS-PAGE of human alpha synuclein S87N fibrils under reducing conditions showing the protein purity. Lane 1: Biorad All Blue Standards (3uL), Lane 2: human alpha synuclein S87N pre-formed fibrils (2ug), lane 3: human alpha synuclein S87N pre-formed fibrils (4ug).



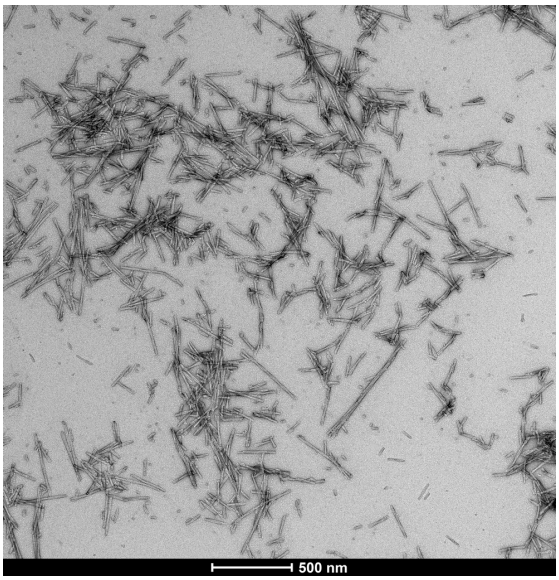
Fibril formation activity of human alpha synuclein S87N mutant monomers seeded by human alpha synuclein S87N mutant pre-formed fibrils. The graph shows an increase in ThT signal indicating increased beta-sheet content and fibril formation over 72 hours.



Sedimentation assay of human alpha synuclein S87N fibrils showing >90% of material is insoluble when spun at 20,000 xg. Lane 1: Biorad All Blue Standards (3uL), Lanes 2-4: human alpha synuclein S87N pre-formed fibrils (10ug) supernatant, wash and pellet.



Additional TEM of human alpha synuclein S87N fibrils. Negative stain transmission electron microscopy images acquired at 80 Kv on carbon coated 400 mesh copper grids using phosphotungstic acid and uranyl acetate stain. Scale bar = 100 nm. Method: Samples were prepared for examination in the transmission electron microscope using the ‘direct application method’ (Doane and Anderson 1987).



Additional TEM of human alpha synuclein S87N fibrils. Negative stain transmission electron microscopy images acquired at 80 Kv on carbon coated 400 mesh copper grids using phosphotungstic acid and uranyl acetate stain. Scale bar = 500 nm. Method: Samples were prepared for examination in the transmission electron microscope using the 'direct application method' (Doane and Anderson 1987).

Product Citations (0)

Currently there are no citations for this product.

Reviews

There are no reviews yet.