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## Produktinformation



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### Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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# Alpha Synuclein E114C Mutant Monomers: ATTO 488



Discovery through Partnership | Excellence through Quality

Human Recombinant Alpha Synuclein E114C  
Mutant Monomers: ATTO 488  
Catalog No. SPR-517-A488

## Product Name

Alpha Synuclein E114C Mutant Monomers: ATTO 488

## Description

Human Recombinant Alpha Synuclein E114C Mutant Monomers: ATTO 488

## Applications

WB, Native PAGE, In vitro Assay, In vivo Assay

## Concentration

Lot/batch specific. See included datasheet.

## Conjugates

ATTO 488

## Nature

Recombinant

## Species

Human

## Expression System

E. coli

## Amino Acid Sequence

MDVFMKGLSKAKEGVVAAAETKQGVAAEAGKTKEGVLVYVGSKTKEGVVHGVATVAEKTKEQVTNVGGAVVTGVTAVAQ  
KTVEGAGSIAAATGFVKKDQLGKNEEGAPQEGILCDMPVDPDNEAYEMPSEEGYQDYEPEA

## Purity

>95%

## Protein Length

140 AA

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**Protein Size**

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14.434 kDa

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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.

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**Properties**

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**Storage Buffer**1X PBS pH 7.4

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**Storage Temperature**-80°C

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

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**Purification**Ion-exchange & SEC purified

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**Cite This Product**Human Recombinant Alpha Synuclein E114C Mutant Monomers: ATTO 488 (StressMarq Biosciences Inc., Victoria BC CANADA, Catalog # SPR-517)

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**Certificate Of Analysis**Protein certified >95% pure on SDS-page and nanodrop analysis, endotoxin below 5 EU/mL at 2 mg/mL

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**Other Relevant Information**For corresponding PFFs, see catalog# SPR-518-A488

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**Biological Description**

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**Alternative Names**Alpha synuclein monomer, Alpha-synuclein monomer, Alpha synuclein protein monomer, Alpha synuclein monomer, 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's disease familial 1 Protein

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**Research Areas**

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

## Swiss Prot

P37840

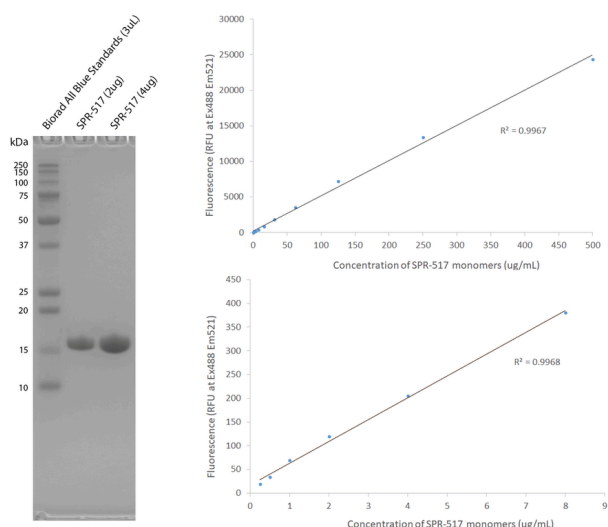
## Scientific Background

The alpha-synuclein (aSyn) E114C mutation facilitates a single site-specific conjugation with ATTO-488 maleimide that avoids any hindrance on fibrilization or cell entry that may be conferred by non-specific lysine targeting conjugations. This conjugation is ideal due to internal position relative to C-terminal truncation sites, proximity to the NAC, and lack of interference with recruitment in vitro or in primary neurons (1, 2). Pre-formed fibrils (PFFs) generated with 5-25% fluorescently tagged E114C mutants have demonstrated a relative potency >80% compared to wild-type aSyn for inducing misfolding of endogenous aSyn, indicating no significant perturbation of seeding in living cells (1). Atto-488 is a useful tool for identifying cell entry, as the addition of Trypan Blue to cultures prior to imaging will quench fluorescence of extracellular Atto-488 conjugated aSyn (3). Our aSyn E114C-Atto-488 PFFs, which contain 10% fluorescently tagged E114C mutants, are an excellent tool for studying cell entry and localization, with demonstrated entry into neurons after trypan blue quenching.

## References

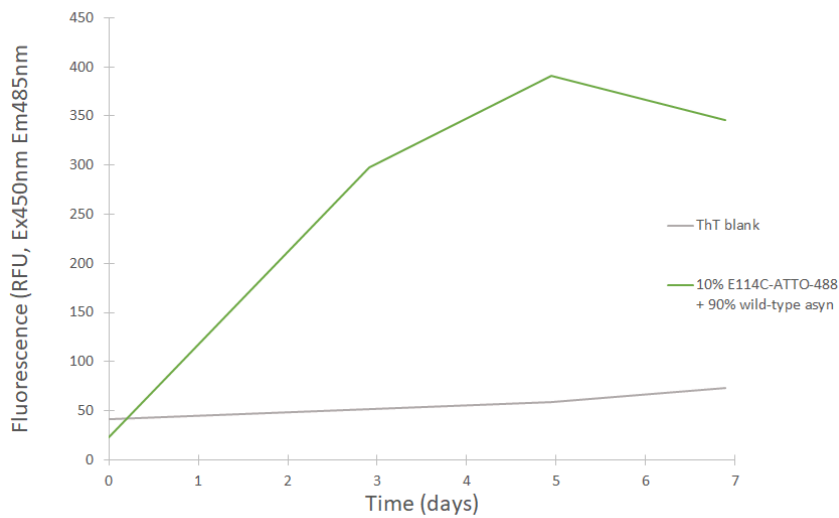
- 1., Haney et al. 2016. Comparison of strategies for non-perturbing labeling of  $\alpha$ -synuclein to study amyloidogenesis. *Organic & Biomolecular Chemistry*. DOI: 10.1039/c5ob02329g
- 2., Karpowicz et al. 2017. Selective imaging of internalized proteopathic  $\alpha$ -synuclein seeds in primary neurons reveals mechanistic insight into transmission of synucleinopathies. *JBC*. DOI: 10.1074/jbc.M117.780296
- 3., Pieri et al. 2016. Structural and functional properties of prefibrillar  $\alpha$ -synuclein oligomers. *Scientific Reports*. DOI: 10.1038/srep24526

## Product Images



Purity and fluorescent signal of alpha-synuclein E114C-ATTO-488 monomers (SPR-517-A88). Left: SDS-PAGE analysis of SPR-517 monomers on a 12% Bis-Tris gel (left). Right: SPR-517 concentration and fluorescence (excitation 488nm, emission 521 nm) exhibit a linear relationship at all concentrations tested

(250 ng/mL – 500 µg/mL).



Fibril formation of ATTO-488 conjugated alpha-synuclein E114C monomers (SPR-517-A88). Fibrils were generated from a mixture of 10% E114C-ATTO-488 conjugated monomers and 90% wild-type monomers shaken 1000 rpm at 37°C for seven days in 1X PBS pH 7.4. Prior to measurement, a sample was taken, diluted to 0.5 mg/mL in 1X PBS pH 7.4 with 25 µM ThT and mixed. Excitation 450nm, emission 485 nm. Note: overall fibril ThT signal is dampened due to overlapping Atto-488 absorption maxima with ThT emission maxima.

## Product Citations

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## Reviews

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There are no reviews yet.