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## Produktinformation



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### Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

### SZABO-SCANDIC HandelsgmbH

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# Amyloid Beta Protein



Discovery through Partnership | Excellence through Quality

Human Amyloid Beta Pyroglutamate 3-42 Pre-formed Fibrils  
Catalog No. SPR-492

## Product Name

Amyloid Beta Protein

## Description

Human Amyloid Beta Pyroglutamate 3-42 Pre-formed Fibrils

## Applications

WB, In vivo Assay, In vitro Assay

## Concentration

Lot/batch specific. See included datasheet.

## Conjugates

No tag

## Nature

Synthetic (TFA preparation, HFIP treated precursor)

## Species

Human

## Expression System

N/A

## Amino Acid Sequence

pyroEFRHDSGYEVHHQKLVFFAEDVGSNKGAIIGLMVGGVVIA

## Purity

>95%

## Other Resources

## Protein Length

40 amino acids

## Field Of Use

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

## Properties

### Storage Buffer

10mM HCl with 2% DMSO

### Storage Temperature

-80°C

### Shipping Temperature

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

### Purification

N/A

### Cite This Product

Human Amyloid Beta pyroglutamate 3-42 Pre-formed Fibrils (StressMarq Biosciences Inc., Victoria BC CANADA, Catalog # SPR-492)

### Certificate Of Analysis

Protein certified >95% pure by mass spec and HPLC

## Biological Description

### Alternative Names

pyro abeta, pyro amyloid beta, Abeta, Amyloid beta peptide, Beta amyloid peptide, amyloid beta precursor protein peptide, pyroglutamate amyloid beta, A $\beta$ PE3, APP

### Research Areas

Alzheimer's Disease, Amyloid, Neurodegeneration, Neuroscience

### Cellular Localization

Cell membrane, Intracellular Vesicles

### Gene ID

351

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## Swiss Prot

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P05067

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## Scientific Background

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Our Amyloid Beta pyroglutamate 3-42 (pyro A $\beta$ ) Pre-formed Fibrils are generated from Amyloid Beta Peptide 3-42 pre-treated with 1,1,1,3,3,3-Hexafluoro-2-propanol (HFIP) using a previously published method (1,2). Our pyro A $\beta$ 3-42 fibrils present as primarily long strands when observed under TEM and AFM, and have a unique high molecular weight signal on a Western Blot with an anti-amyloid beta antibody. Amyloid beta peptide (A $\beta$ ) is generated by protease cleavage of amyloid precursor protein (APP), which aggregates into oligomers, protofibrils, fibrils and ultimately plaques. The accumulation of A $\beta$  plaques in the brain is considered a hallmark of Alzheimer's disease (AD), and most of the drugs tested for AD in the past 20 years have targeted amyloid beta accumulation (3). Pyroglutamate A $\beta$  3-42 is an N-terminally truncated peptide species that is modified by glutaminyl cyclase and has been reported to compromise 15-45% of total amyloid beta deposits in brains of AD patients (4,5). Pyroglutamate A $\beta$  3-42 exhibits higher aggregation propensity and neurotoxicity compared with full-length A $\beta$  1-42 (6,7) and is an active target in the next generation AD therapeutic development (8). +

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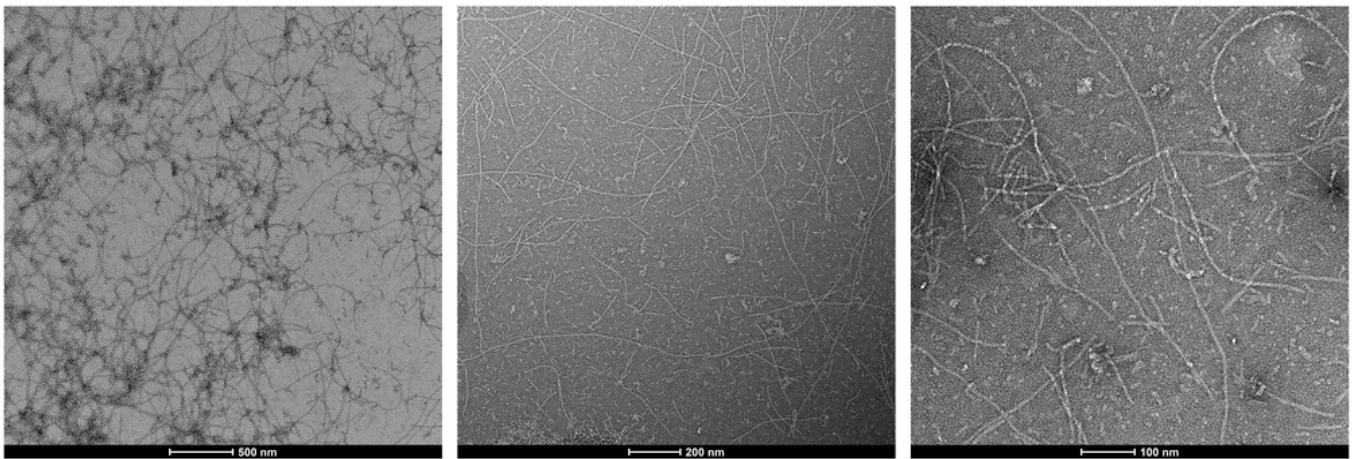
## References

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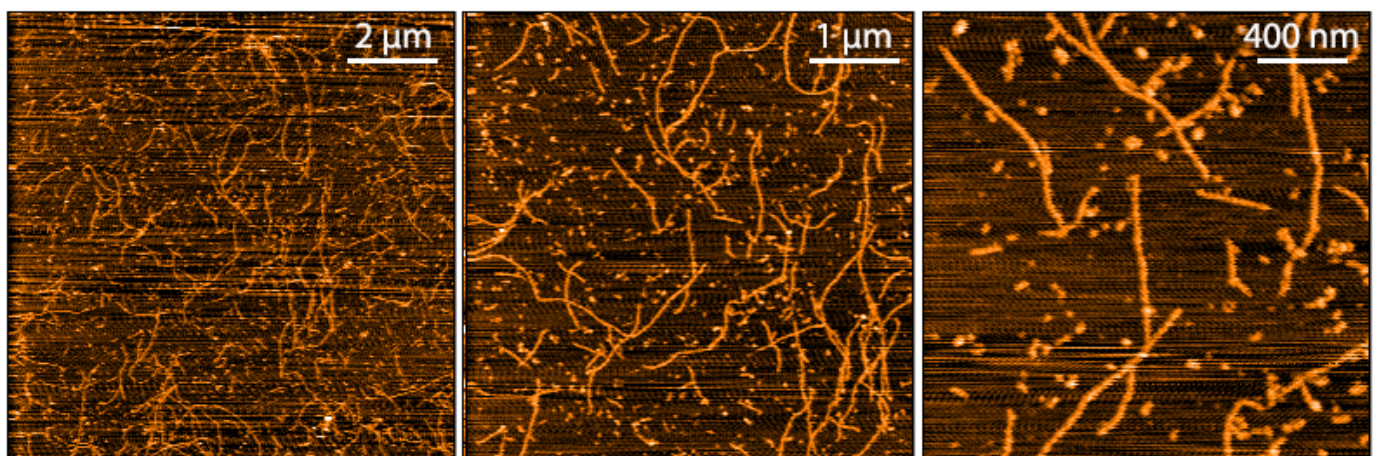
1. Stine et al. 2003. JBC. 278(13):11612-22; doi: 10.1074/jbc.M210207200
  2. Chromy et al. 2003. Biochemistry. 42:12749-12760; doi: 10.1021/bi030029q
  3. Panza et al. 2019. Nat Rev Neurol. 15:73-88; <https://doi.org/10.1038/s41582-018-0116-6>
  4. Valverde et al. 2021. JBC. 297:100963; <https://doi.org/10.1016/j.jbc.2021.100963>
  5. Schilling et al. 2008. Nat Med. 14:1106-11; DOI: 10.1038/nm.1872
  6. Hartlage-Rubsamen et al. 2011. Acta Neuropathol. 121:705-19; 10.1007/s00401-011-0806-2
  7. Xu, Wang and Wu. 2021. J Med Chem. 64:6549-65; DOI: 10.1021/acs.jmedchem.1c00325
  8. Bayer. 2021. Nat Mol Psych. 27:1880-1885; <https://doi.org/10.1038/s41380-021-01409-2>
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## Product Images

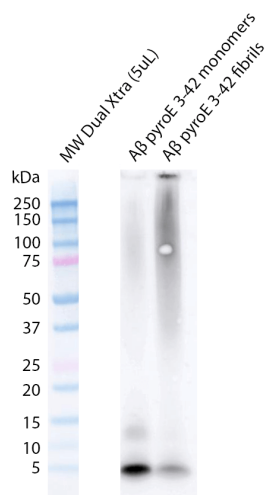
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TEM of amyloid beta pyroglutamate 3-42 fibrils (catalog# SPR-492). Negative stain transmission electron microscopy images acquired at 80 Kv on carbon coated 400 mesh copper grids using phosphotungstic acid and uranyl acetate stain. Scale bar = 500, 200 and 100 nm (left to right). Method: Samples were prepared for examination in the transmission electron microscope using the 'direct application method' (Doane and Anderson 1987).



AFM of amyloid beta pyroglutamate 3-42 fibrils (catalog# SPR-492). Atomic force microscopy analysis of 1.0 mg/mL samples diluted to 0.1 mg/mL in 2% DMSO + 10 mM HCl, mounted on freshly cleaved mica, washed, dried and analyzed with tapping mode. Representative images are 10 x 10 μm x-y (left) and 5 x 5 μm x-y (middle) and 2 x 2 μm x-y (right), all with a z-range of 6 nm.



Western blot of amyloid beta pyroglutamate 3-42 fibrils (catalog# SPR-492) using anti-amyloid beta 6E10 antibody. Amyloid beta pyroglutamate 3-42 at 160 pmol was run on 4-12% Bis-Tris SDS-PAGE, transferred to nitrocellulose in the presence of 0.02% v/v Tween-20, and blotted with 1:1000 mouse 6E10 primary antibody (Biolegend). Compared to monomers re-suspended in 2% DMSO and immediately run on SDS-PAGE, fibrils show monomer depletion, a signal from 37 kDa upwards and a distinct signal in the stacking gel. MW ladder = Precision Plus Dual Xtra prestained standards.

## 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.