

## Product datasheet

# Recombinant human Alpha-Synuclein protein filament ab254309

[4 Images](#)

### Description

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<b>Product name</b>	Recombinant human Alpha-Synuclein protein filament
<b>Biological activity</b>	Functional in a thioflavin binding assay. >x100 signal when compared to monomer control.
<b>Purity</b>	> 95 % SDS-PAGE. Purity >95% by LC/MS
<b>Endotoxin level</b>	< 0.100 Eu/μg
<b>Expression system</b>	Escherichia coli
<b>Accession</b>	<b><u>P37840</u></b>
<b>Protein length</b>	Full length protein
<b>Animal free</b>	No
<b>Nature</b>	Recombinant
<b>Species</b>	Human
<b>Sequence</b>	MDVFMKGLSKAKEGVVAAAEEKTKQGVAEAAGKTKEGVL YVGSKTKEGVVH GVATVAEKTKEQVTNVGGAVVTGVTAVAQKTVEGAGSIA AATGFVKKDQL GKNEEGAPQEGILEDMPVDPDNEAYEMPSEEGYQDYEP EA
<b>Amino acids</b>	1 to 140
<b>Additional sequence information</b>	Heterogenous assembly of the monomer.
<b>Description</b>	Recombinant human Alpha-synuclein protein

### Specifications

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Our **Abpromise guarantee** covers the use of **ab254309** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

<b>Applications</b>	SDS-PAGE Sandwich ELISA Functional Studies
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Dot blot

**Form**

Lyophilized

**Additional notes**

Alpha-Synuclein is expressed predominantly in the brain, where it is concentrated in presynaptic nerve terminals. The deposition of the abundant presynaptic brain protein alpha-synuclein as fibrillary aggregates in neurons or glial cells is a hallmark lesion in a subset of neurodegenerative disorders. These disorders include Parkinson's disease (PD), dementia with Lewy bodies (DLB) and multiple system atrophy, collectively referred to as synucleinopathies. 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.

This antibody was developed with support from The Michael J. Fox Foundation.



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**Preparation and Storage**

**Stability and Storage**

Shipped at Room Temperature. Store at Room Temperature.

This product is an active protein and may elicit a biological response in vivo, handle with caution.

**Reconstitution**

Resuspend in water. Lyophilized contents may appear as either a translucent film or a white powder. This variance does not affect the quality of the product.

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**General Info**

**Function**

May be involved in the regulation of dopamine release and transport. Induces fibrillization of microtubule-associated protein tau. Reduces neuronal responsiveness to various apoptotic stimuli, leading to a decreased caspase-3 activation.

**Tissue specificity**

Expressed principally in brain but is also expressed in low concentrations in all tissues examined except in liver. Concentrated in presynaptic nerve terminals.

**Involvement in disease**

Genetic alterations of SNCA resulting in aberrant polymerization into fibrils, are associated with several neurodegenerative diseases (synucleinopathies). SNCA fibrillar aggregates represent the major non A-beta component of Alzheimer disease amyloid plaque, and a major component of Lewy body inclusions. They are also found within Lewy body (LB)-like intraneuronal inclusions, glial inclusions and axonal spheroids in neurodegeneration with brain iron accumulation type 1.  
Parkinson disease 1  
Parkinson disease 4  
Dementia Lewy body

**Sequence similarities**

Belongs to the synuclein family.

**Domain**

The 'non A-beta component of Alzheimer disease amyloid plaque' domain (NAC domain) is involved in fibrils formation. The middle hydrophobic region forms the core of the filaments. The C-terminus may regulate aggregation and determine the diameter of the filaments.

**Post-translational modifications**

Phosphorylated, predominantly on serine residues. Phosphorylation by CK1 appears to occur on residues distinct from the residue phosphorylated by other kinases. Phosphorylation of Ser-129 is selective and extensive in synucleinopathy lesions. In vitro, phosphorylation at Ser-129 promoted insoluble fibril formation. Phosphorylated on Tyr-125 by a PTK2B-dependent pathway upon osmotic stress.

Hallmark lesions of neurodegenerative synucleinopathies contain alpha-synuclein that is modified by nitration of tyrosine residues and possibly by dityrosine cross-linking to generated stable oligomers.

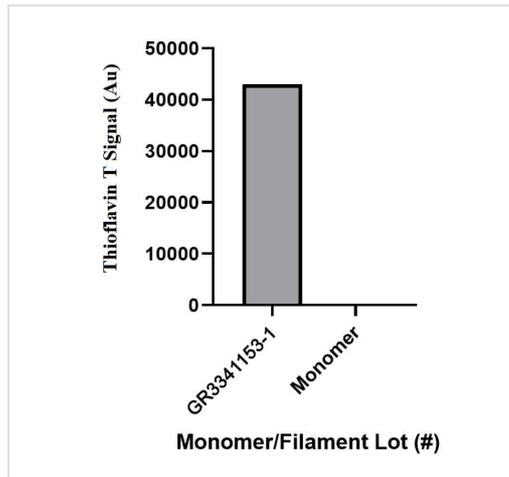
Ubiquitinated. The predominant conjugate is the diubiquitinated form.

Acetylation at Met-1 seems to be important for proper folding and native oligomeric structure.

## Cellular localization

Cytoplasm, cytosol. Membrane. Nucleus. Cell junction, synapse. Secreted. Membrane-bound in dopaminergic neurons.

## Images

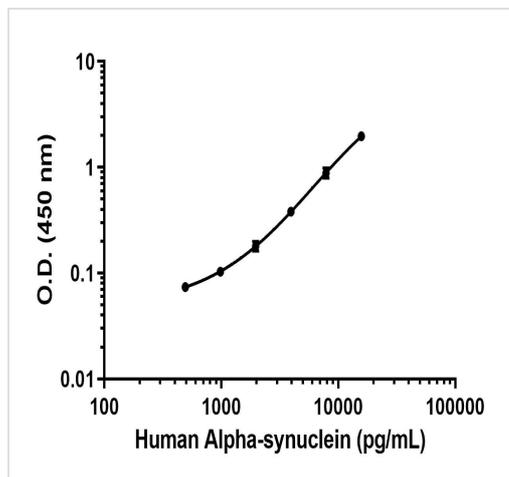


Thioflavin binding by ab254309.

Functional in a thioflavin binding assay.

>x100 signal when compared to monomer control.

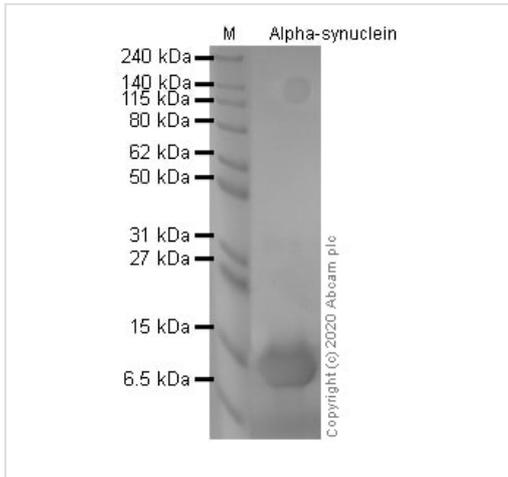
Functional Studies - Recombinant human Alpha-Synuclein protein filament (ab254309)



Sandwich ELISA - Recombinant human Alpha-Synuclein protein filament standard curve

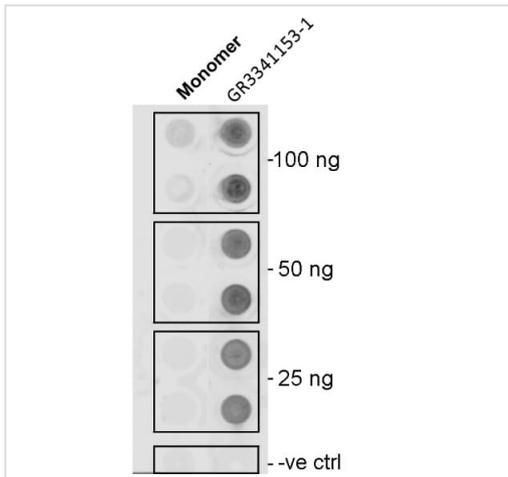
Background subtracted standard curve using Human Alpha-synuclein Antibody Pair - BSA and Azide free ([ab270346](#)) and Recombinant human Alpha-Synuclein protein filament (ab254309) in sandwich ELISA. The ELISA was performed using the components of the corresponding SimpleStep® kit, which uses the same antibody pair with a different formulation and format.

Sandwich ELISA - Recombinant human Alpha-Synuclein protein filament (ab254309)



SDS-PAGE analysis of ab254309.

SDS-PAGE - Recombinant human Alpha-Synuclein protein filament (ab254309)



Confirmation specific Antibody binding.

Positive signal when assayed by Dotblot, binding **ab209538**.

Dot Blot - Recombinant human Alpha-Synuclein protein filament (ab254309)

**Please note:** All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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