

## Product datasheet

# Recombinant mouse Alpha-synuclein protein aggregate Type 1 (Active) ab246002

[1 References](#) [6 Images](#)

### Description

<b>Product name</b>	Recombinant mouse Alpha-synuclein protein aggregate Type 1 (Active)	
<b>Biological activity</b>	Endogenous alpha-synuclein phosphorylation. 100 µM alpha synuclein protein monomer seeded with 10 nM alpha synuclein protein PFF (ab246002) in 25 µM Thioflavin T (PBS pH 7.4, 100 µl reaction volume) generated an increased fluorescence intensity after incubation at 37°C with shaking at 600 rpm for 24 hours. Fluorescence was measured by excitation at 450 nm and emission at 485 nm on a microplate reader.	
	<b>Endotoxin Level:</b> 10-20 EU/mL	
<b>Purity</b>	> 95 % SDS-PAGE. Ion-exchange purified.	
<b>Expression system</b>	Escherichia coli	
<b>Accession</b>	<a href="#">O55042</a>	
<b>Protein length</b>	Full length protein	
<b>Animal free</b>	No	
<b>Nature</b>	Recombinant	
<b>Species</b>	Mouse	
<b>Sequence</b>	MDVFMKGLSKAKEGVVAAAEEKTKQGVAEAAGKTKEGVL YGSKTKEGVVH GVTTVAEKTKEQVTNVGGAVVTGVTAVAQKTVEGAGNIA AATGFVKKDQM GKGEEGYPQEGILEDMPVDPGSEAYEMPSEEGYQDYEP EA	
<b>Predicted molecular weight</b>	15 kDa	
<b>Amino acids</b>	1 to 140	
<b>Additional sequence information</b>	NP_001035916.1	
<b>Description</b>	Recombinant mouse Alpha-synuclein protein (Active)	

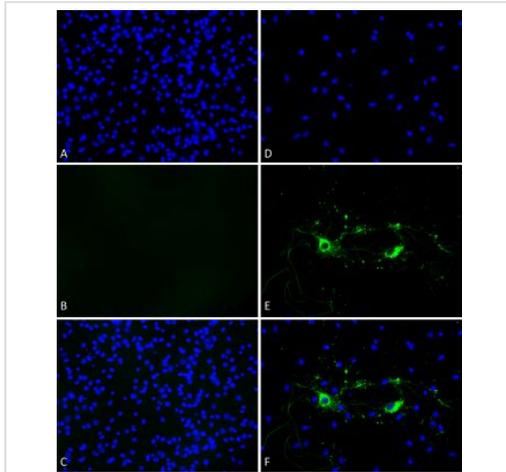
### Specifications

Our [Abpromise guarantee](#) covers the use of **ab246002** 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>	<p>Immunocytochemistry</p> <p>Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections)</p> <p>Functional Studies</p> <p>Electron Microscopy</p> <p>SDS-PAGE</p>
<b>Form</b>	Liquid
<b>Additional notes</b>	<p>Active Mouse recombinant Alpha Synuclein Pre-Formed Fibrils (Type 1).</p> <p>For best results, sonicate immediately prior to use.</p>
<b>Preparation and Storage</b>	
<b>Stability and Storage</b>	<p>Shipped on Dry Ice. Upon delivery aliquot. Store at -80°C. Avoid freeze / thaw cycle.</p> <p>Constituent: PBS</p> <p>This product is an active protein and may elicit a biological response in vivo, handle with caution.</p>
<b>General Info</b>	
<b>Function</b>	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.
<b>Tissue specificity</b>	Expressed principally in brain but is also expressed in low concentrations in all tissues examined except in liver. Concentrated in presynaptic nerve terminals.
<b>Involvement in disease</b>	<p>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.</p> <p>Parkinson disease 1</p> <p>Parkinson disease 4</p> <p>Dementia Lewy body</p>
<b>Sequence similarities</b>	Belongs to the synuclein family.
<b>Domain</b>	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.
<b>Post-translational modifications</b>	<p>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.</p> <p>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.</p> <p>Ubiquitinated. The predominant conjugate is the diubiquitinated form.</p> <p>Acetylation at Met-1 seems to be important for proper folding and native oligomeric structure.</p>
<b>Cellular localization</b>	Cytoplasm, cytosol. Membrane. Nucleus. Cell junction, synapse. Secreted. Membrane-bound in

## Images



Immunocytochemistry - Recombinant mouse Alpha-synuclein protein aggregate (Active) (ab246002)

Primary rat hippocampal neurons (DV16) show lewy body inclusion formation and loss of cells when treated with ab246002 at 4  $\mu\text{g}/\text{ml}$  (D-F) on DVI2, but not when treated with a control (A-C). Tissue: Primary hippocampal neurons. Species: Sprague-Dawley rat. Fixation: 3% formaldehyde from PFA for 20 min. Blocker: 1:1 PBS:proprietary block and 30 mL/mL of 0.1% triton-X 100 for 30 min. Primary Antibody: Mouse anti-pSer129 Antibody (1/1000) and Rabbit anti-pSer129 (1/800) for 24 hours at 4°C. Secondary Antibody: ATTO 546 Donkey Anti-Mouse (1/700) and ATTO 488 Donkey Anti-Rabbit (1/700) for 1 hour at room temperature (composite green). Counterstain: Hoechst (blue) nuclear stain at 1/3000 for 1 hour at room temperature. Localization: Lewy body inclusions. Magnification: 20x.

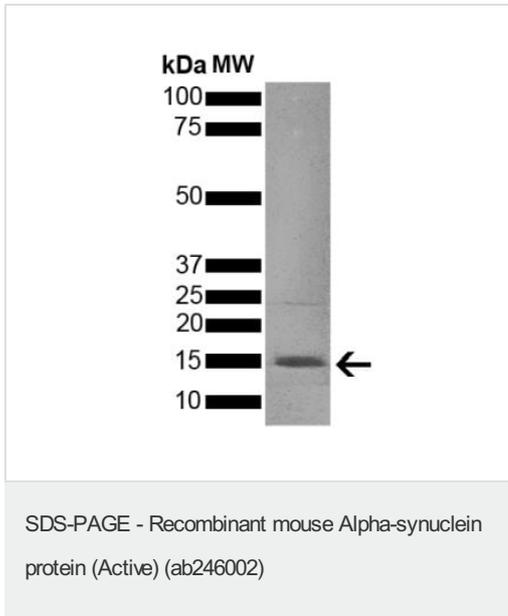


Immunohistochemistry (PFA fixed) - Recombinant mouse Alpha-synuclein protein (Active) (ab246002)

Immunohistochemistry analysis of rat brain injected with ab246002. Species: Female Sprague-Dawley Rat. Rat was injected with 2  $\mu\text{L}$  ab246002 in each of 2 injection sites: AP+1.6, ML+2.4, DV-4.2 from skull; and AP-1.4, ML+0.2, DV-2.8 from skull. 30 days post-injection. Fixation: Saline perfusion followed by 4% PFA fixation for 48 hours. Primary antibody: rabbit monoclonal anti-pSer129 alpha synuclein. Secondary Antibody: Biotin-SP Donkey Anti-Rabbit IgG (H+L) at 1/500 for 2 hours in cold room with shaking. ABC signal amplification, DAB staining. Magnification: 20x. Alpha synuclein pathology is seen in the periform/insular cortex and the cingulate cortex on both the same (ipsi) and opposite (contra) sides as the injection sites.



SDS-PAGE analysis of ab246002 (2 µg).



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

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