Datasheet for ABIN5651242

SNCA Protein (full length)

3 Images

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Overview

Quantity:	100 µg
Target:	SNCA
Protein Characteristics:	full length
Origin:	Mouse
Source:	Escherichia coli (E. coli)
Protein Type:	Recombinant
Biological Activity:	Active
Application:	SDS-PAGE (SDS), Western Blotting (WB), In vitro Assay (in vitro), In vivo Studies (in vivo)

Product Details

Sequence:	MDVFMKGLSK AKEGVVAAAE KTKQGVAEAA GKTKEGVLYV GSKTKEGVVH GVTTVAEKTK EQVTNVGGAV VTGVTAVAQK TVEGAGNIAA ATGFVKKDQM GKGEEGYPQE GILEDMPVDP GSEAYEMPSE EGYQDYEPEA
Specificity:	~14.46 kDa
Purification:	Ion-exchange Purified
Biological Activity Comment:	100 µM alpha synuclein protein monomer (SPR-323) seeded with 10 nM alpha synuclein protein PFF (SPR-324) 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. Fluorescence was measured by excitation at 450 nm and emission at 485 nm on a Molecular Devices Gemini XPS microplate reader.

Target Details

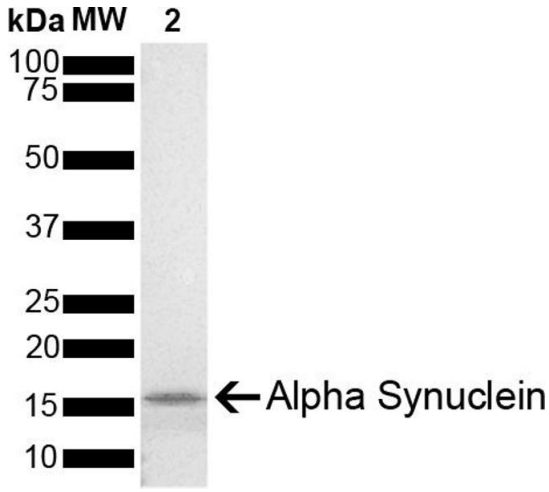
Target:	SNCA
Alternative Name:	Alpha Synuclein (SNCA Products)
Background:	Alpha-Synuclein (SNCA) is expressed predominantly in the brain, where it is concentrated in presynaptic nerve terminals (1). Alpha-synuclein is highly expressed in the mitochondria of the olfactory bulb, hippocampus, striatum and thalamus (2). Functionally, it has been shown to significantly interact with tubulin (3), and may serve as a potential microtubule-associated protein. It has also been found to be essential for normal development of the cognitive functions, inactivation may lead to impaired spatial learning and working memory (4). SNCA fibrillar aggregates represent the major non A-beta component of Alzheimers disease amyloid plaque, and a major component of Lewy body inclusions, and Parkinson's disease. 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 (5, 6).
Gene ID:	20617
NCBI Accession:	NP_001035916
UniProt:	O55042
Pathways:	Synaptic Membrane, Regulation of G-Protein Coupled Receptor Protein Signaling, Positive Regulation of Endopeptidase Activity, Regulation of Carbohydrate Metabolic Process, Platelet-derived growth Factor Receptor Signaling, Negative Regulation of Transporter Activity, Regulation of long-term Neuronal Synaptic Plasticity

Application Details

Application Notes:	Optimal working dilution should be determined by the investigator.
Comment:	Certified >95% pure using SDS-PAGE analysis.
Restrictions:	For Research Use only

Handling

Concentration:	Lot specific
Buffer:	PBS pH 7.4
Storage:	-80 °C



SDS-PAGE

Image 1. SDS-PAGE of ~14 kDa Mouse Recombinant Alpha Synuclein Protein Monomer (ABIN5651242, ABIN5651243 and ABIN5651244). Lane 1: Molecular Weight Ladder (MW). Lane 2: Alpha Synuclein Protein Monomer (2 µg) (ABIN5651242, ABIN5651243 and ABIN5651244).

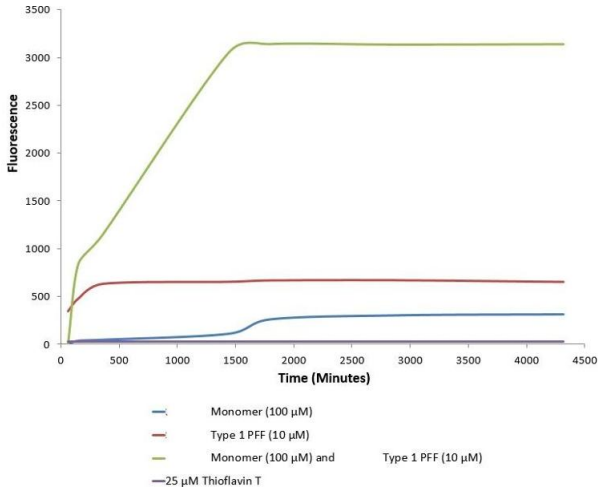
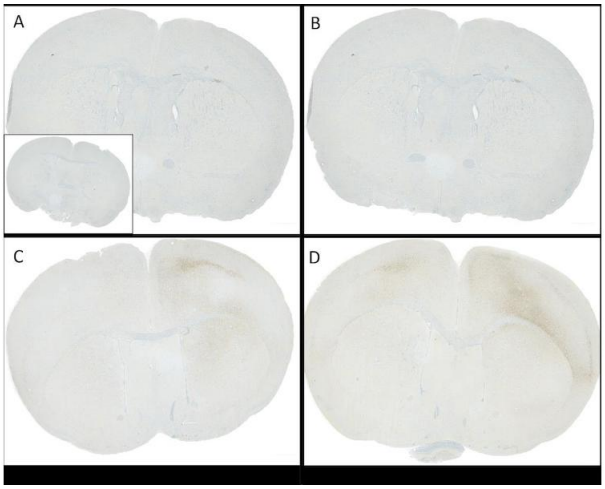


Image 2. Type 1 alpha synuclein pre-formed fibrils (ABIN5651242, ABIN5651243 and ABIN5651244) seed the formation of new alpha synuclein fibrils from the pool of alpha synuclein monomers (ABIN5651242, ABIN5651243 and ABIN5651244). Thioflavin T is a fluorescent dye that binds to beta sheet-rich structures, such as those in alpha synuclein fibrils. Upon binding, the emission spectrum of the dye experiences a red-shift, and increased fluorescence intensity. Thioflavin T emission curves show increased fluorescence (correlated to alpha synuclein protein aggregation) over time when 10 µM of Type 1 alpha synuclein pre-formed fibrils (ABIN5651242, ABIN5651243 and ABIN5651244) is combined with 100 µM of alpha synuclein monomer (ABIN5651242, ABIN5651243 and ABIN5651244), as compared to Type 1 alpha synuclein pre-formed fibrils (ABIN5651242, ABIN5651243 and ABIN5651244) or alpha synuclein monomer (ABIN5651242, ABIN5651243 and ABIN5651244) alone. Thioflavin T ex = 450 nm, em = 485 nm.



Immunohistochemistry

Image 3. C57/BL6 mice were injected with sonicated recombinant mouse alpha synuclein monomers or fibrils at 8 weeks of age. Mice were unilaterally injected in the dorsal striatum (bregma AP + 0.2 mm, L +/1 2.0 mm, V - 3.0 mm) and sacrificed 30 days post-injection. (A) 1.25 µLmouse alpha synuclein monomers (ABIN5651242, ABIN5651243 and ABIN5651244). (B) 2.5 µLmouse alpha synuclein monomers (ABIN5651242, ABIN5651243 and ABIN5651244). (C) 2.5 µg alpha synuclein PFFs (ABIN5651242, ABIN5651243 and ABIN5651244). (C) 5 µg alpha synuclein PFFs (ABIN5651242, ABIN5651243 and ABIN5651244) Inset: PBS (negative control). Primary antibody: Anti-Alpha Synuclein pSer129 (SMC-600) at 1:10 000. Secondary antibody: anti-rabbit HRP. Mice injected with PFF displayed alpha synuclein staining in the striatum and cortex and contralateral to the injection site. Courtesy of: Porsolt.

