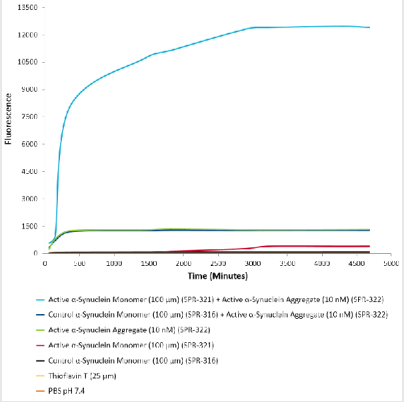
Alpha Synuclein (SNCA) Active Protein

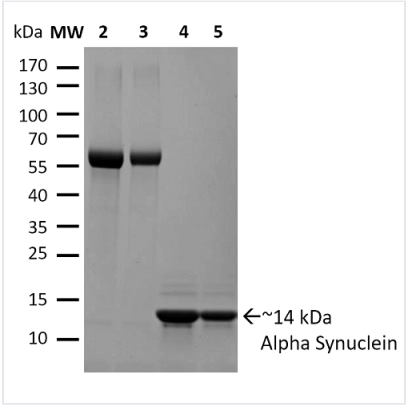
PRODUCT OVERVIEW

Product Name	Alpha Synuclein (SNCA), Active Protein
Full Product Name	Alpha Synuclein Protein
Product Gene Name	SNCA active protein
Product Synonym Names	Active Human Recombinant Alpha Synuclein Protein Monomer; Active Alpha synuclein monomer; Active Alpha-synuclein monomer; Active Alpha synuclein protein monomer; Active Alpha synuclein monomer; Active 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; Active Alpha synuclein monomers; SYN protein; Parkison disease familial 1 Protein
Sequence	MDVFMKGLSK AKEGVVAAAE KTKQGVAEAA GKTKEGVLYV GSKTKEGVVH GVATVAEKTK EQVTNVGGAV VTGVTAVAQK TVEGAGSIAA ATGFVKKDQL GKNEEGAPQE GILEDMPVDP DNEAYEMPSE EGYQDYEPEA
Host	E Coli
Purity/Purification	Purity: >95% Purification: Ion-exchange Purified
Concentration	2 mg/ml (lot specific)
Specificity	~14.46 kDa
Preparation and Storage	Store at -80 degree C; 1 year + Avoid freeze/thaw cycles. Shipping Temperature: Dry Ice. Shipping note: Product will be shipped separately from other products purchased in the same order.
OMIM	127750
3D Structure	ModBase 3D Structure for P37840
Active Protein Note	Protein activity can be an ambiguous term. Please refer to the data sheet or inquire with Technical Support to determine the definition of activity for this product.
Species	Human
Target	Alpha Synuclein
Cellular Localization	Cytoplasm; Membrane; Nucleus
Storage Buffer	PBS pH 7.4
Biological Activity	100 uM alpha synuclein protein monomer seeded with 10 nM alpha synuclein protein aggregate in 25 uM Thioflavin T (PBS pH 7.4, 100 ul reaction volume) generated a fluorescence intensity of 13,000 Relative Fluorescence Units after incubation at 37 degree C with shaking at 600 rpm for 24 hours. Fluorescence was measured by excitation at 450 nm and emission at 485 nm on a Molecular Devices Gemini XPS microplate reader.
Nature	Recombinant
Tag Information	No tag
Dry Ice Shipment	Extra charge fee may add to your shipping cost as dry ice is required to ship this product.
Research Areas	Alzheimer's Disease, Neurodegeneration, Neuroscience, Parkinson's Disease, Synuclein, Tangles & Tau, Multiple System Atrophy
Product Categories/Family for SNCA active protein	Protein; Neuroscience; Neurodegeneration; Alzheimer's Disease; Tangles & Tau; Neuroscience; Neurodegeneration ; Parkinson's Disease; Synuclein

Applications Tested/Suitable for SNCA active protein	Western Blot (WB), SDS-PAGE, In vivo assay, In vitro assay
Related Product Information for SNCA active protein	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).
Product References and Citations for SNCA active protein	1. "Genetics Home Reference: SNCA". US National Library of Medicine. (2013). 2. Zhang L., et al. (2008) Brain Res. 1244: 40-52. 3. Alim M.A., et al. (2002) J Biol Chem. 277(3): 2112-2117. 4. Kokhan V.S., Afanasyeva M.A., Van'kin G. (2012) Behav. Brain. Res. 231(1): 226-230. 5. Spillantini M.G., et al. (1997) Nature. 388(6645): 839-840. 6. Mezey E., et al. (1998) Nat Med. 4(7): 755-757.
Other Notes	Small volumes of SNCA active protein vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for SNCA purchase	MBS8001845 is an active protein targeting SNCA. Also known as Alpha Synuclein Protein. Host: E Coli.



Testing Data of SNCA active protein
Active alpha synuclein aggregate (SPR-322) seeds the formation of new alpha Synuclein aggregates from the pool of active alpha Synuclein monomers (SPR-321). Thioflavin T is a fluorescent dye that binds to beta sheet-rich structures, such as those in alpha Synuclein aggregates. 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 nM of active alpha Synuclein aggregate (SPR-322) is combined with 100 uM of active alpha Synuclein monomer (SPR-321), as compared to when 100 uM of control alpha Synuclein monomer (SPR-316) is combined with 10 nM of active alpha Synuclein aggregate (SPR-322). Thioflavin T ex = 450 nm, em = 485 nm.



SDS-Page of SNCA active protein
SDS-PAGE of ~14 kDa Active Human Recombinant Alpha Synuclein Protein Monomer (SPR-321). Lane 1: Molecular Weight Ladder (MW). Lane 2: BSA (5 ug). Lane 3: BSA (2.5 ug). Lane 4: Active Alpha Synuclein Protein Monomer (5 ug) (SPR-321). Lane 5: Active Alpha Synuclein Protein Monomer (2.5 ug) (SPR-321).

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for SNCA. It may not necessarily be applicable to this product.

NCBI GI #	4507109
NCBI GeneID	6622
NCBI Accession #	NP_000336.1
UniProt Primary Accession #	P37840
UniProt Secondary Accession #	Q13701; Q4JHI3; Q6IAU6; A8K2A4
UniProt Related Accession #	P37840
GenBank Nucleotide #	NM_000345.3

NCBI Official Full Name	alpha-synuclein isoform NACP140
NCBI Official Synonym Full Names	synuclein alpha
NCBI Official Symbol	SNCA
NCBI Official Synonym Symbols	PD1; NACP; PARK1; PARK4
UniProt Protein Name	Alpha-synuclein
UniProt Synonym Protein Names	Non-A beta component of AD amyloid; Non-A4 component of amyloid precursor; NACP
Protein Family	Alpha-synuclein
UniProt Gene Name	SNCA
UniProt Synonym Gene Names	NACP; PARK1; NACP
NCBI Protein Information	alpha-synuclein
NCBI Summary for SNCA	Alpha-synuclein is a member of the synuclein family, which also includes beta- and gamma-synuclein. Synucleins are abundantly expressed in the brain and alpha- and beta-synuclein inhibit phospholipase D2 selectively. SNCA may serve to integrate presynaptic signaling and membrane trafficking. Defects in SNCA have been implicated in the pathogenesis of Parkinson disease. SNCA peptides are a major component of amyloid plaques in the brains of patients with Alzheimer's disease. Alternatively spliced transcripts encoding different isoforms have been identified for this gene. [provided by RefSeq, Feb 2016]
UniProt Comments for SNCA	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.
Research Articles on SNCA	**1.** This study provides the preclinical rationale for the combined blockade of PD-1/PD-L1 and C5a to restore antitumor immune responses, inhibit tumor cell growth, and improve outcomes of patients with lung cancer
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