

## Alpha Synuclein Active Protein | SNCA active protein

Alpha Synuclein Protein

|                              |                       |                                               |
|------------------------------|-----------------------|-----------------------------------------------|
| CATALOG #<br><b>AAA27658</b> | HOST<br><b>E Coli</b> | APPLICATIONS<br><b>Western Blot, SDS-Page</b> |
|------------------------------|-----------------------|-----------------------------------------------|

### PRODUCT SYNONYMS

Alpha Synuclein; Alpha Synuclein Protein; Active Human Recombinant Alpha Synuclein Protein Monomer; Active Alpha synuclein monomer; Active Alpha-synuclein monomer; Active Alpha synuclein protein monomer; Active Alpha-synuclein protein; Non-A beta component of AD amyloid protein; Non-A4 component of amyloid precursor protein; NACP protein; SNCA protein; PARK1 protein; Active Alpha synuclein monomers; SYN protein; Parkinson disease familial 1 Protein; SNCA active protein

### PRODUCT SPECIFICATIONS

|                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Host                                            | E Coli                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Specificity                                     | ~14.46 kDa                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Purity/Purification                             | Purity: >95%<br>Purification: Ion-exchange Purified                                                                                                                                                                                                                                                                                                                                                                                |
| Concentration                                   | 2 mg/ml (varies by lot)                                                                                                                                                                                                                                                                                                                                                                                                            |
| Sequence                                        | MDVFMKGLSK AKEGVVAAAE KTKQGVAAEA GKTKEGVLYV GSKTKEGVVH GVATVAEKTQ EQVTNVGGAV<br>VTGVTAVAQK TVEGAGSIAA ATGFVKKQDL GKNEEGAPQE GILEDMPVDP DNEAYEMPSE EGYQDYEPEA                                                                                                                                                                                                                                                                       |
| Sequence Length                                 | Full Length                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Applicable Applications for SNCA active protein | WB (Western Blot), SDS-PAGE, In vivo Assay, In vitro Assay                                                                                                                                                                                                                                                                                                                                                                         |
| 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 Note                                    | The product may be shipped with dry ice, and an additional fee may be added to your shipping cost.                                                                                                                                                                                                                                                                                                                                 |
| Research Areas                                  | Alzheimer's Disease, Neurodegeneration, Neuroscience, Parkinson's Disease, Synuclein, Tangles & Tau, Multiple System Atrophy                                                                                                                                                                                                                                                                                                       |
| Preparation and Storage                         | Store at -80 degree C; 1 year + Avoid freeze/thaw cycles.<br>Shipping Temperature: Dry Ice.<br>Shipping note: Product will be shipped separately from other products purchased in the same order.                                                                                                                                                                                                                                  |

IMAGES



SDS-PAGE

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).



Application Data

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  $\lambda_{ex}$  = 450 nm,  $\lambda_{em}$  = 485 nm.

ADDITIONAL INFORMATION

|                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-----------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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 Categories/Family for SNCA active protein   | Protein; Neuroscience; Neurodegeneration; Alzheimer's Disease; Tangles & Tau; Neuroscience; Neurodegeneration; Parkinson's Disease; Synuclein                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| References                                          | 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.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

NCBI AND UNIPROT INFORMATION

|                                  |                                        |
|----------------------------------|----------------------------------------|
| NCBI GI #                        | 4507109                                |
| NCBI GeneID                      | 6622                                   |
| NCBI Accession #                 | NP_000336.1                            |
| NCBI GenBank Nucleotide #        | NM_000345.3                            |
| UniProt Accession #              | P37840; Q13701; Q4JHI3; Q6IAU6; A8K2A4 |
| 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                |
| NCBI Protein Information         | alpha-synuclein                        |
| UniProt Protein Name             | Alpha-synuclein                        |
| UniProt Gene Name                | SNCA                                   |
| UniProt Synonym Gene Names       | NACP; PARK1; NACP                      |

**For Research Use Only.** Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: <https://stage.aaabiotech.com/e-coli-active-protein/alpha-synuclein/27658>