# Human SNCA / alpha-Synuclein Protein

**Catalog Number:** **12093-HNAE**

## General Information

**Gene Name Synonym:**

NACP; PARK1; PARK4; PD1

**Protein Construction:**

A DNA sequence encoding the mature form of human SNCA isoform 1 (P37840-1) (Met 1-Ala 140) was expressed and purified.

**Source:** Human

**Expression Host:** E. coli

## QC Testing

**Purity:** > 97 % as determined by SDS-PAGE

**Endotoxin:**

Please contact us for more information.

**Stability:**

Samples are stable for up to twelve months from date of receipt at -70 ℃

**Predicted N terminal:** Met 1

**Molecular Mass:**

The recombinant human SNCA consisting of 140 amino acids and has a calculated molecular mass of 14.5 kDa. It migrates as an approximately 19 kDa band in SDS-PAGE under reducing conditions.

**Formulation:**

Lyophilized from sterile PBS, pH 7.4

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

## Usage Guide

**Storage:**

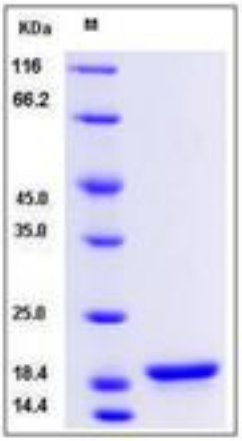
Store it under sterile conditions at -20℃ to -80℃ upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

**Avoid repeated freeze-thaw cycles.**

**Reconstitution:**

Detailed reconstitution instructions are sent along with the products.

**SDS-PAGE:**




## Protein Description

Alpha-Synuclein (alpha-Syn), also known as NACP or SNCA, exists as at least two structural isoforms: one is helix-rich, membrane-bound form that both the N- and C-terminal regions of alpha-synuclein are tightly associated with membranes and the other is disordered, cytosolic form. Synuclein is found predominantly in the presynaptic termini, in both free or membrane-bound forms. SNCA is extensively localized in nucleus of neurons. It has been shown that alpha-Synuclein was highly expressed in the mitochondria in olfactory bulb, hippocampus, striatum, and thalamus, where the cytosolic alpha-Synuclein was also rich. Normally the unstructured soluble type of alpha-synuclein can aggregate to form insoluble fibrils in pathological conditions characterized by Lewy bodies, such as Parkinson's disease, dementia with Lewy bodies and multiple system atrophy. SNCA abnormality and mitochondrial deficiency are two major changes in the brain of patients with Parkinson's disease (PD). In addition, alpha-synuclein is an abundant component of Lewy bodies in sporadic Parkinson's disease and diffuse Lewy body disease.

### References

1.Arima K, *et al.* (1998) Immunoelectron-microscopic demonstration of NACP / alpha-synuclein-epitopes onthe filamentous component of Lewy bodies in Parkinson's disease and in dementia with Lewy bodies. Brain Res. 808 (1): 93-100. 2.Arima K, *et al.* (1998) NACP / alpha-synuclein immunoreactivity in fibrillary components of neuronal and oligodendroglial cytoplasmic inclusions in the pontine nuclei in multiple system atrophy. Acta Neuropathol. 96 (5): 439-44. 3.Lee HJ, *et al.* (2001) Membrane-bound alpha-Synuclein Has a High Aggregation Propensity and the Ability to Seed the Aggregation of the Cytosolic Form. The Journal of Biological Chemistry. 277: 671-8.