

Alpha-Synuclein Protein, Human, Recombinant

General Information

Synonyms:	PD1; α -Synuclein;PARK4;synuclein, α (non A4 component of amyloid precursor);synuclein, alpha (non A4 component of amyloid precursor);PARK1;NACP
Protein Construction:	A DNA sequence encoding the mature form of human SNCA isoform 1 (P37840-1) (Met 1-Ala 140) was expressed and purified. Predicted N terminal: Met 1
Species:	Human
Expression Host:	E. coli
Accession:	P37840-1
Molecular Weight:	14.5 kDa (predicted); 19 kDa (reducing conditions)

QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 90 % as determined by SDS-PAGE
Endotoxin:	Please contact us for more information.
Formulation:	Lyophilized from a solution filtered through a 0.22 μ m filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, Lyophilized powders are shipping with blue ice.

Protein Background

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). Besides, alpha-synuclein is an abundant component of Lewy bodies in sporadic Parkinson's disease and diffuse Lewy body disease.

Reference

Arima K, et al. (1998) Immunoelectron-microscopic demonstration of NACP / alpha-synuclein-epitopes on the filamentous component of Lewy bodies in Parkinson's disease and in dementia with Lewy bodies. *Brain Res.* 808 (1): 93-100.

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.

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.

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