

Product Specification Sheet

Human Synuclein Recombinant protein

Cat. # SYN-A53T-R

Human Alpha SYN Recombinant protein
FORM: Soln Lyophilized

SIZE: 50 ug

Parkinson's disease (**PD**) is a common neurodegenerative disorder with a lifetime incidence of approximately 2 percent; the clinical manifestations of this neurodegenerative disorder include resting tremor, muscular rigidity, bradykinesia, and postural instability. A relatively specific pathological feature accompanying the neuronal degeneration is an intracytoplasmic inclusion body, known as the **Lewy body**. A mutation was identified in the α -**synuclein** gene, which codes for a presynaptic protein thought to be involved in neuronal plasticity, this mutation may cause a conformational change that renders α -synuclein more prone to self aggregation and deposition in Lewy bodies, which finally leads to oxidative stress and misfolding of α -synuclein.

Park, S.M et al 2002, Blood 100, 2506; Polymeropoulos, M.H et al 1997, Science 276, 2045; Jakes. R et al. 1994, FEBS Lett. 345, 27.

*This product is for *in vitro* research use only.

Syn-A53T-R rev. 40204S

Parkin gene, mutations in this gene are reported in early autosomal-recessive form of PD, however these mutations do not degenerate **Lewy bodies**. The Parkin gene product (**Parkin**) is involved in protein degradation as a ubiquitin protein ligase, the known substrates of Parkin include Pael-R (Parkin-associated endothelin receptor-like receptor), Ubiquitination of Pael-R by Parkin leads to its degradation in the proteasome, however failure to ubiquitinate it leads to death of neuron.

The synuclein exists in 3 isoform α -**syn (chrM 4q21)**, a 140aa protein, implicated in pathogenesis of PD and related neurodegenerative disorders, it is mainly expressed in brain specifically in neuronal cell bodies and synapses. The 134 aa β -**syn (chrM 5q35)** is homologous to 14 kDa bovine phosphoneuroprotein 14; SCNB has been shown to be highly expressed in the substantia nigra of the brain. Recently a new isoform termed γ -**synuclein (SNCG)** or breast cancer gene 1 (BCG1) has been cloned (human 127 aa (chrM 10q23), rat/mouse 123 aa). Higher levels of expression of SNCG have been reported in advanced breast carcinomas. All three synuclein show ~40% identity.

Source and Storage

Human Alpha synuclein recombinant protein expressed in E.coli, a point mutant (A53T) of the alpha synuclein gene that has been linked to autosomal dominant early onset Parkinson's disease. Purity: >95% by SDS-PAGE (Mol.wt 14.5kD). It is provided in 50 mM Sodium Phosphate buffer, 60 mM NaCl, 17 mM citric acid, pH 6.2 in liquid (100 ug/100 ul) or lyophilized. The lyophilized products should be reconstituted (Add 100 ml water or a desired buffer at a given volume and lightly vortex and mix for 15 min at room temp). It can then be used or aliquoted for storage in small aliquots at -70oC or below.

General References:

India Contact:

Life Technologies (India) Pvt. Ltd.

306, Aggarwal City Mall, Opposite M2K Pitampura, Delhi – 110034 (INDIA). Ph: +91-11-42208000, 42208111, 42208222, Mobile: +91-9810521400, Fax: +91-11-42208444
Email: customerservice@lifetechindia.com Website: www.lifetechindia.com