ALPHA DIAGNOSTIC INTERNATIONAL

LIFE TECH Life Technologies™ Your Molecular & Cell Technology Partner

Product Specification Sheet

Synuclein-α (Forms 1 & 3) Antibodies

Cat. # SYN11-S	Rabbit Anti-Human SYN11 antiserum # 1	**SIZE**: 100 ul
Cat. # SYN11-A	Rabbit Anti-Human SYN11 Ig G #1 (aff pure)	**SIZE**: 100 ug/
Cat. # SYN11-P	Human SYN11 Control peptide	**SIZE**: 100 ug
Cat. # SYN11-C	Human Alpha SYN W.blot +ve Control	**SIZE**: 100 ul

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.

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 has been reported in advanced breast carcinomas. All three synucleins show ~40% identity.

Source of Antigen and Antibodies

Antigen	15aa peptide of Human SYN1; **Designated (SYN11-P or control peptide). conjugated to KLH; epitope location ~ C-terminus**
Ab Host/type	Rabbit, polyclonal Unpurified antiserum (cat #SYN11-S) Aff pure IgG (**cat #SYN11-A**) purified over antigen-agarose column
2-ab	**Goat Anti-rabbit IgG-HRP cat # 20320 (AP, biotin, FITC conjugates also available)**
-ve control IgG	**# 20009-1, Rabbit (non-immune) IgG, purified, suitable for ELISA, Western, IHC as –ve control**

Human Alpha synuclein recombinant protein (purity: >95% by SDS-PAGE (Mol. wt 14.5kD). For Western blot +ve control (**Cat # SYN11-C**) is supplied in SDS-PAGE sample buffer (reduced). Load 10 ul/lane of **SYN11**-C for good visibility with antibody Cat # **SYN11**-S. Store at –20oC in suitable size aliquots. SDS may crystallize in cold conditions. It should redissolve by warming before taking it from the stock. It should be heated once prior to loading on gels. If the product has been stored for several weeks, then it may be preferable to add 5 ul of fresh 2x sample buffer per 10 ul of the **SYN11**-C solution prior to heating and loading on gels. This preparation is not biologically active. It is not suitable for ELISA or other applications where native protein is required. Do not freeze, thaw, or heat repeatedly

Form & Storage of Antibodies/Peptide Control

Antiserum (unpurified)

100ul solution lyophilized powder
Supplied 0.05% azide, **Reconstitute** powder in 100 ul PBS

Affinity pure IgG

100 ug/100ul solution lyophilized powder
Supplied in **Buffer**: PBS+0.1% BSA
Reconstitute powder in PBS at 1mg/ml

Control/blocking peptide

100 ug/100 ul solution lyophilized powder
Supplied in Buffer: PBS pH 7.5,
Reconstitute powder in PBS at 1 mg/ml.

Storage

Short-term: unopened, undiluted liquid vials at -20OC and powder at 4oC or -20oC..

Long-term: at –20C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

Stability: 6-12 months at –20oC or below.

Recommended Usage

Western Blotting (1:1K-5K for neat serum and 1-10 ug/ml for affinity pure using Chemiluminescence technique).

ELISA (1:10K-1:100K; using 50-100 ng of control peptide/well).

Immunoprecipitations: We recommend 5-10 ul neat serum or 1-10 ug affinity pure antibody per 100 ug of tissue..

Histochemistry & Immunofluorescence: We recommend the use of affinity purified antibody at 2-20 ug/ml.

Specificity & Cross-reactivity

The human SYN11 (similar in 140 aa NACP) peptide sequences show 86% homology with mouse/ rat/ chicken SYN-1. No significant homology is seen with beta-synuclein or with other known proteins. The SYN11 antibody cross-reactivity in all species is not known. The appropriate control immunogenic peptides are also available to confirm specificity of antibodies. Control peptide, because of its low mol. Wt (<3 kDa), is not suitable for Western. It should be used for ELISA or antibody blocking experiments (use 5-10 ug control peptide per 1 ug of aff pure IgG or 1 ul antiserum) to confirm antibody specificity (see detailed protocol at the web site.

General References: Jakes et al (1994) FEBS Lett. 345, 27-32; Ueda K et al (1993) PNAS 0, 11282-11286; Maroteaux L. et al (1988) J Neurosci. 8, 2804-2815; Maroteaux L et al (1991) Mol. Brain Res. 11, 335-343

Citation of ADI's Antibodies for Synuclein Alpha:
Sudo S et al, 2002, Acta Neuropathologica DOI 10.1007, Motor neuron disease with dementia combined with degeneration of striatonigral and pallidoluysian systems

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

SYN11-S-A-P-C 71209A

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