

# $\alpha$ -synuclein (3F345): sc-69979

## BACKGROUND

The synuclein family members, including  $\alpha$ -synuclein (also designated NACP for non- $\beta$  amyloid component) and  $\beta$ -synuclein, are predominantly expressed in the brain and are speculated to be involved in synaptic regulation and neuronal plasticity.  $\alpha$ -synuclein is localized to neuronal cell bodies and synapses.  $\alpha$ -synuclein was first identified as a component of Alzheimer's disease amyloid plaques. Abnormal platelet function in Alzheimer's disease has been demonstrated. During megakaryocytic differentiation,  $\alpha$ -synuclein has been found to be upregulated, while  $\beta$ -synuclein is downregulated, indicating that coordinate expression of synucleins may be important during hematopoietic cell differentiation. A mutant form of  $\alpha$ -synuclein has been found in patients with early onset Parkinson's disease.

## REFERENCES

1. Ueda, K., Fukushima, H., Masliah, E., Xia, Y., Iwai, A., Yoshimoto, M., Otero, D.A., Kondo, J., Ihara, Y. and Saitoh, T. 1993. Molecular cloning of cDNA encoding an unrecognized component of amyloid in Alzheimer disease. Proc. Natl. Acad. Sci. USA 90: 11282-11286.
2. Jakes, R., Spillantini, M.G. and Goedert, M. 1994. Identification of two distinct synucleins from human brain. FEBS Lett. 345: 27-32.
3. Iwai, A., Masliah, E., Yoshimoto, M., Ge, N., Flanagan, L., de Silva, H.A., Kittel, A. and Saitoh, T. 1995. The precursor protein of non-A  $\beta$  component of Alzheimer's disease amyloid is a presynaptic protein of the central nervous system. Neuron 14: 467-475.
4. Hashimoto, M., Yoshimoto, M., Sisk, A., Hsu, L.J., Sundsmo, M., Kittel, A., Saitoh, T., Miller, A. and Masliah, E. 1997. NACP, a synaptic protein involved in Alzheimer's disease, is differentially regulated during megakaryocyte differentiation. Biochem. Biophys. Res. Commun. 237: 611-616.
5. Polymeropoulos, M.H., Lavedan, C., Leroy, E., Ide, S.E., Dehejia, A., Dutra, A., Pike, B., Root, H., Rubenstein, J., Boyer, R., Stenroos, E.S., Chandrasekharappa, S., Athanassiadou, A., Papapetropoulos, T., et al. 1997. Mutation in the  $\alpha$ -synuclein gene identified in families with Parkinson's disease. Science 276: 2045-2047.

## CHROMOSOMAL LOCATION

Genetic locus: SNCA (human) mapping to 4q22.1.

## SOURCE

$\alpha$ -synuclein (3F345) is a mouse monoclonal antibody raised against recombinant  $\alpha$ -synuclein of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>2a</sub> in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## APPLICATIONS

$\alpha$ -synuclein (3F345) is recommended for detection of  $\alpha$ -synuclein of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for  $\alpha$ -synuclein siRNA (h): sc-29619,  $\alpha$ -synuclein shRNA Plasmid (h): sc-29619-SH and  $\alpha$ -synuclein shRNA (h) Lentiviral Particles: sc-29619-V.

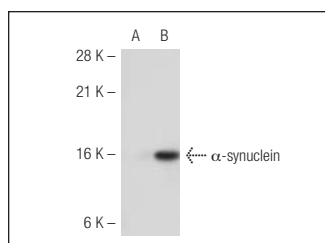
Molecular Weight of  $\alpha$ -synuclein: 19 kDa.

Positive Controls: SH-SY5Y cell lysate: sc-3812,  $\alpha$ -synuclein (h): 293T lysate: sc-111729 or human brain tissue.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



$\alpha$ -synuclein (3F345): sc-69979. Western blot analysis of  $\alpha$ -synuclein expression in non-transfected: sc-117752 (A) and human  $\alpha$ -synuclein transfected: sc-111729 (B) 293T whole cell lysates.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.