

α -synuclein (SPM451): sc-52979

BACKGROUND

The synuclein family members, including α -synuclein (also designated NACP for non- β amyloid component) and β -synuclein, are predominantly expressed in the brain and are speculated to be involved in synaptic regulation and neuronal plasticity. α -synuclein is localized to neuronal cell bodies and synapses. α -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, α -synuclein has been found to be upregulated, while β -synuclein is downregulated, indicating that coordinate expression of synucleins may be important during hematopoietic cell differentiation. A mutant form of α -synuclein has been found in patients with early onset Parkinson's disease.

REFERENCES

1. Ueda, K., et al. 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., et al. 1994. Identification of two distinct synucleins from human brain. FEBS Lett. 345: 27-32.
3. Iwai, A., et al. 1995. The precursor protein of non-A β component of Alzheimer's disease amyloid is a presynaptic protein of the central nervous system. Neuron 14: 467-475.
4. Hashimoto, M., et al. 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., et al. 1997. Mutation in the α -synuclein gene identified in families with Parkinson's disease. Science 276: 2045-2047.

CHROMOSOMAL LOCATION

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

SOURCE

α -synuclein (SPM451) is a mouse monoclonal antibody raised against recombinant α -synuclein of human origin.

PRODUCT

Each vial contains 200 μ g IgG_{2a} kappa light chain 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.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

APPLICATIONS

α -synuclein (SPM451) is recommended for detection of α -synuclein of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)].

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

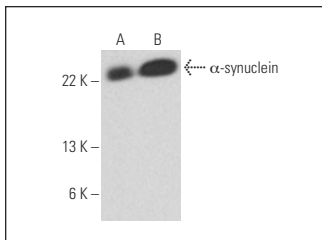
Molecular Weight of α -synuclein: 19 kDa.

Positive Controls: SH-SY5Y cell lysate: sc-3812, α -synuclein (h): 293T lysate: sc-111729 or T98G cell lysate: sc-2294.

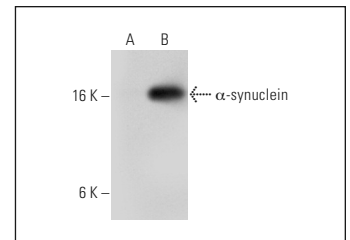
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), 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).

DATA



α -synuclein (SPM451): sc-52979. Western blot analysis of α -synuclein expression in human brain (A) and human brain frontal lobe (B) tissue extracts.



α -synuclein (SPM451): sc-52979. Western blot analysis of α -synuclein expression in non-transfected: sc-117752 (A) and human α -synuclein transfected: sc-111729 (B) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Wen, Y., et al. 2011. Alternative mitochondrial electron transfer as a novel strategy for neuroprotection. J. Biol. Chem. 286: 16504-16515.
2. Choi, B.K., et al. 2015. β -Amyloid and α -synuclein cooperate to block SNARE-dependent vesicle fusion. Biochemistry 54: 1831-1840.



See **α -synuclein (211): sc-12767** for α -synuclein antibody conjugates, including AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647.