SANTA CRUZ BIOTECHNOLOGY, INC.

α/β-synuclein (3B6): sc-69699

BACKGROUND

The synucleins, including α-synuclein (also designated NACP for nonamyloid component precursor), β-synuclein (also designated PNP 14 for phosphoneuroprotein 14) and γ-synuclein (also designated persyn or BCSG1 for breast cancer-specific gene 1) are presynaptic proteins abundant in neurons. Synucleins are predominantly expressed in the brain and are speculated to be involved in synaptic regulation and neuronal plasticity. α-synuclein, identified as a component of Alzheimer's disease amyloid plaques, is localized to neuronal cell bodies and synapses. Coordinate expression of α-synuclein and β-synuclein may be important during hematopoetic cell differentiation. A mutant form of α-synuclein is found in patients with early onset Parkinson's disease. γ-synuclein is associated with axonal pathology in Parkinson's disease.

REFERENCES

1. Ueda, K., et al. 1993. Molecular cloning of cDNA encoding an unrecognized component of amyloid in Alzheimer's 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.
6. da Costa, C.A., et al. 2003. β-synuclein displays an antiapoptotic p53-dependent phenotype and protects neurons from 6-hydroxydopamine-induced caspase 3 activation: cross-talk with α-synuclein and implication for Parkinson's disease. J. Biol. Chem. 278: 37330-37335.
7. Wilson, C.A., et al. 2004. Degradative organelles containing mislocalized α- and β-synuclein proliferate in presenilin-1 null neurons. J. Cell Biol. 165: 335-346.

CHROMOSOMAL LOCATION

Genetic locus: SNCA (human) mapping to 4q22.1; SNCB (human) mapping to 5q35.2.

SOURCE

α/β-synuclein (3B6) is a mouse monoclonal antibody raised against a recombinant protein corresponding to amino acids 119-140 of α-synuclein of human origin.

PRODUCT

Each vial contains 100 µg IgG_1 in 1.0 ml of PBS with < 0.1% sodium azide, 0.1% gelatin and 1% glycerol.

APPLICATIONS

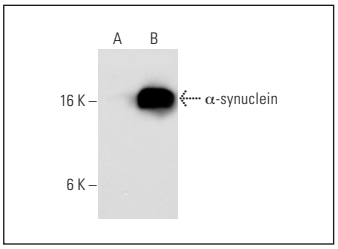
α/β-synuclein (3B6) is recommended for detection of α-synuclien and β-synuclein of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500)

Suitable for use as control antibody for α/β/γ-synuclein siRNA (h): sc-43589, α/β/γ-synuclein shRNA Plasmid (h): sc-43589-SH and α/β/γ-synuclein shRNA (h) Lentiviral Particles: sc-43589-V.

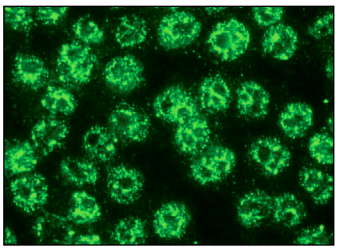
Molecular Weight of α/β-synuclein: 19 kDa.

Positive Controls: SK-N-MC cell lysate: sc-2237 or α-synuclein (h): 293T Lysate: sc-111729.

DATA



α/β-synuclein (3B6): sc-69699. 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.



α/β-synuclein (3B6): sc-69699. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization.

SELECT PRODUCT CITATIONS

1. Vaikath, N.N., et al. 2015. Generation and characterization of novel conformation-specific monoclonal antibodies for α-synuclein pathology. Neurobiol. Dis. 79: 81-99.

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 for detailed protocols and support products.