

γ -synuclein (8H11): sc-135575

BACKGROUND

The synucleins, including α -synuclein (also designated NACP for nonamyloid component precursor), β -synuclein (also designated PNP 14 for phospho-neuroprotein 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 hematopoietic 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

- 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.
- Jakes, R., et al. 1994. Identification of two distinct synucleins from human brain. *FEBS Lett.* 345: 27-32.
- 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.
- 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.
- Polymeropoulos, M.H., et al. 1997. Mutation in the α -synuclein gene identified in families with Parkinson's disease. *Science* 276: 2045-2047.
- 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.
- 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.
- Lee, D., et al. 2004. β -synuclein exhibits chaperone activity more efficiently than α -synuclein. *FEBS Lett.* 576: 256-260.

CHROMOSOMAL LOCATION

Genetic locus: SNCG (human) mapping to 10q23.2.

SOURCE

γ -synuclein (8H11) is a mouse monoclonal antibody raised against recombinant γ -synuclein protein of human origin.

PRODUCT

Each vial contains 50 μ g IgG_{2a} kappa light chain in 0.5 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

γ -synuclein (8H11) is recommended for detection of γ -synuclein of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for γ -synuclein siRNA (h): sc-42289, γ -synuclein shRNA Plasmid (h): sc-42289-SH and γ -synuclein shRNA (h) Lentiviral Particles: sc-42289-V.

Molecular Weight of γ -synuclein monomer: 17 kDa.

Molecular Weight of γ -synuclein dimer: 35 kDa.

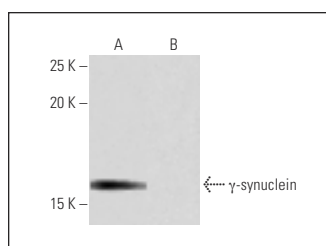
Molecular Weight of γ -synuclein tetramer: 68 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200 or human γ -synuclein transfected 293T whole cell lysate.

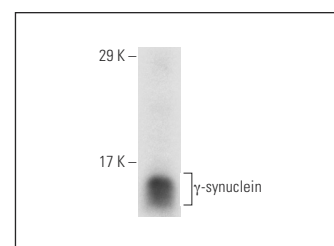
RECOMMENDED SUPPORT REAGENTS

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, UltraCruz® Blocking Reagent: sc-516214 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



γ -synuclein (8H11): sc-135575. Western blot analysis of γ -synuclein expression in human γ -synuclein transfected (A) and non-transfected (B) 293T whole cell lysates.



γ -synuclein (8H11): sc-135575. Western blot analysis of γ -synuclein expression in HeLa whole cell lysate.

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.