

γ -synuclein (C-20): sc-10699

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

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.
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.

CHROMOSOMAL LOCATION

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

SOURCE

γ -synuclein (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of γ -synuclein of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-10699 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

γ -synuclein (C-20) is recommended for detection of γ -synuclein of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) 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: HT29 whole cell lysate.

SELECT PRODUCT CITATIONS

1. El-Agnaf, O.M., et al. 2003. α -synuclein implicated in Parkinson's disease is present in extracellular biological fluids, including human plasma. FASEB J. 17: 1945-1947.
2. Liu, H., et al. 2005. Loss of epigenetic control of synuclein- γ gene as a molecular indicator of metastasis in a wide range of human cancers. Cancer Res. 65: 7635-7643.
3. Martin, T.A., et al. 2006. Expression of breast cancer specific gene-1 (BCSG-1/ γ -synuclein) is associated with tumour grade but not with clinical outcome of patients with breast cancer. Oncol. Rep. 16: 207-212.
4. Ono, M., et al. 2006. Label-free quantitative proteomics using large peptide data sets generated by Nanoflow liquid chromatography and mass spectrometry. Mol. Cell. Proteomics 5: 1338-1347.
5. Singh, V.K., et al. 2007. Synuclein- γ targeting peptide inhibitor that enhances sensitivity of breast cancer cells to antimicrotubule drugs. Cancer Res. 67: 626-633.
6. Guo, J., et al. 2007. Neuronal protein synuclein γ predicts poor clinical outcome in breast cancer. Int. J. Cancer 121: 1296-1305.

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.



Try γ -synuclein (1H10D2): sc-65979 or γ -synuclein (8H11): sc-135575, our highly recommended monoclonal alternatives to γ -synuclein (C-20).