

# $\gamma$ -synuclein (B-21): sc-135676

## BACKGROUND

The synucleins, including  $\alpha$ -synuclein (also designated NACP for nonamyloid component precursor),  $\beta$ -synuclein (also designated PNP 14 for phospho-neuroprotein 14) and  $\gamma$ -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.  $\alpha$ -Synuclein, identified as a component of Alzheimer's disease amyloid plaques, is localized to neuronal cell bodies and synapses. Coordinate expression of  $\alpha$ -synuclein and  $\beta$ -synuclein may be important during hematopoietic cell differentiation. A mutant form of  $\alpha$ -synuclein is found in patients with early onset Parkinson's disease.  $\gamma$ -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  $\beta$  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  $\alpha$ -synuclein gene identified in families with Parkinson's disease. Science 276: 2045-2047.
6. da Costa, C.A., et al. 2003.  $\beta$ -Synuclein displays an antiapoptotic p53-dependent phenotype and protects neurons from 6-hydroxydopamine-induced caspase 3 activation: cross-talk with  $\alpha$ -synuclein and implication for Parkinson's disease. J. Biol. Chem. 278: 37330-37335.

## CHROMOSOMAL LOCATION

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

## SOURCE

$\gamma$ -Synuclein (B-21) is a Protein A purified rabbit polyclonal antibody raised against recombinant  $\gamma$ -synuclein protein of human origin.

## PRODUCT

Each vial contains IgG in 100  $\mu$ l of 10 mM HEPES with 150 mM NaCl, 50% glycerol and < 0.1% BSA.

## STORAGE

For immediate and continuous use, store at 4° C for up to one month. For sporadic use, freeze in working aliquots in order to avoid repeated freeze/thaw cycles. If turbidity is evident upon prolonged storage, clarify solution by centrifugation.

## APPLICATIONS

$\gamma$ -Synuclein (B-21) is recommended for detection of  $\gamma$ -synuclein of human origin by Western Blotting (starting dilution to be determined by researcher, dilution range 1:100-1:5000) and immunoprecipitation [1-2  $\mu$ l per 100-500  $\mu$ g of total protein (1 ml of cell lysate)].

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

Molecular Weight of  $\gamma$ -synuclein monomer: 17 kDa.

Molecular Weight of  $\gamma$ -synuclein dimer: 35 kDa.

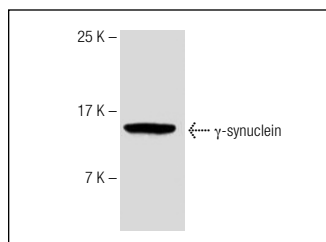
Molecular Weight of  $\gamma$ -synuclein tetramer: 68 kDa.

Positive Controls: HT29 whole cell lysate or MIA PaCa-2 cell lysate: sc-2285.

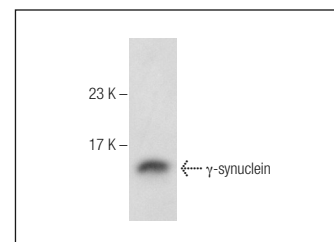
## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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).

## DATA



$\gamma$ -Synuclein (B-21): sc-135676. Western blot analysis of  $\gamma$ -synuclein expression in HT29 whole cell lysate.



$\gamma$ -Synuclein (B-21): sc-135676. Western blot analysis of  $\gamma$ -synuclein expression in MIA PaCa-2 whole cell lysate.

## 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.

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Try  $\gamma$ -Synuclein (1H10D2): sc-65979 or  $\gamma$ -Synuclein (8H11): sc-135575, our highly recommended monoclonal alternatives to  $\gamma$ -Synuclein (B-21).