

# γ-synuclein (1H10D2): sc-65979

## 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.

## CHROMOSOMAL LOCATION

Genetic locus: SNCG (human) mapping to 10q23.2; Sneg (mouse) mapping to 14 B.

## SOURCE

γ-synuclein (1H10D2) is a mouse monoclonal antibody raised against purified truncated recombinant γ-synuclein of human origin.

## PRODUCT

Each vial contains 200 μg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

γ-synuclein (1H10D2) is available conjugated to agarose (sc-65979 AC), 500 μg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-65979 HRP), 200 μg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-65979 PE), fluorescein (sc-65979 FITC), Alexa Fluor® 488 (sc-65979 AF488), Alexa Fluor® 546 (sc-65979 AF546), Alexa Fluor® 594 (sc-65979 AF594) or Alexa Fluor® 647 (sc-65979 AF647), 200 μg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-65979 AF680) or Alexa Fluor® 790 (sc-65979 AF790), 200 μg/ml, for Near-Infrared (NIR) WB, IF and FCM.

## APPLICATIONS

γ-synuclein (1H10D2) is recommended for detection of γ-synuclein of mouse, rat and 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)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for γ-synuclein siRNA (h): sc-42289, γ-synuclein siRNA (m): sc-42290, γ-synuclein shRNA Plasmid (h): sc-42289-SH, γ-synuclein shRNA Plasmid (m): sc-42290-SH, γ-synuclein shRNA (h) Lentiviral Particles: sc-42289-V and γ-synuclein shRNA (m) Lentiviral Particles: sc-42290-V.

Molecular Weight of γ-synuclein monomer: 17 kDa.

Molecular Weight of γ-synuclein dimer: 35 kDa.

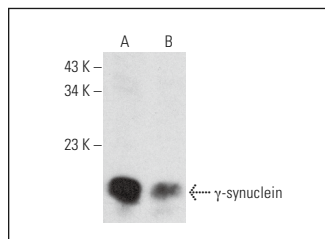
Molecular Weight of γ-synuclein tetramer: 68 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201.

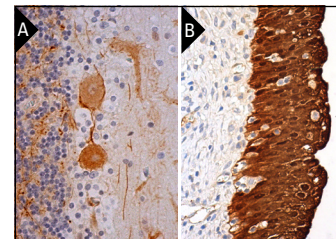
## STORAGE

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

## DATA



γ-synuclein (1H10D2): sc-65979. Western blot analysis of γ-synuclein expression in HT-29 (A) and A-431 (B) whole cell lysates.



γ-synuclein (1H10D2): sc-65979. Immunoperoxidase staining of formalin fixed, paraffin-embedded human cerebellum tissue showing cytoplasmic and membrane staining of Purkinje cells and cytoplasmic staining of cells in granular layer and cells in molecular layer (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human urinary bladder tissue showing cytoplasmic and nuclear staining of urothelial cells (B).

## SELECT PRODUCT CITATIONS

- Ye, Q., et al. 2008. Aberrant expression and demethylation of γ-synuclein in colorectal cancer, correlated with progression of the disease. *Cancer Sci.* 99: 1924-1932.
- Zou, J., et al. 2012. An exploratory analysis of γ-synuclein expression in endometrioid endometrial cancer. *BMJ Open* 2: e000611.
- Ye, Q., et al. 2013. Effects of γ-synuclein on the tumorigenicity and metastasis of colon cancer SW1116 cells *in vitro* and *in vivo*. *Oncol. Rep.* 30: 2161-2170.
- Surgucheva, I., et al. 2014. Role of synucleins in traumatic brain injury—an experimental *in vitro* and *in vivo* study in mice. *Mol. Cell. Neurosci.* 63: 114-123.
- Takemura, Y., et al. 2021. γ-synuclein is a novel prognostic marker that promotes tumor cell migration in biliary tract carcinoma. *Cancer Med.* 10: 5599-5613.
- Xu, Y., et al. 2024. Reconstitution of human PDAC using primary cells reveals oncogenic transcriptomic features at tumor onset. *Nat. Commun.* 15: 818.

## 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) for detailed protocols and support products.

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