SANTA CRUZ BIOTECHNOLOGY, INC.

γ-synuclein (1H10D2): sc-65979

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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.

CHROMOSOMAL LOCATION

Genetic locus: SNCG (human) mapping to 10q23.2; Sncg (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_1 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.

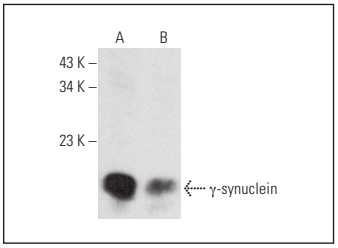
Molecular Weight of γ-synuclein tetramer: 68 kDa.

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

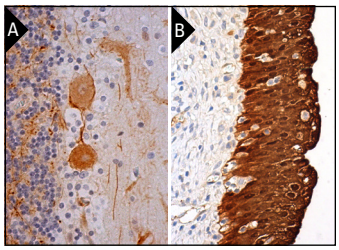
STORAGE

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

1. 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.
2. Zou, J., et al. 2012. An exploratory analysis of γ-synuclein expression in endometrioid endometrial cancer. BMJ Open 2: e000611.
3. 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.
4. 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.
5. 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.
6. 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 for detailed protocols and support products.