SANTA CRUZ BIOTECHNOLOGY, INC.

α-synuclein (211): sc-12767

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The synuclein family members, including α-synuclein (also designated NACP for non-β Amyloid component) and β-synuclein, are predominantly expressed in the brain and are speculated to be involved in synaptic regulation and neuronal plasticity. α-synuclein is localized to neuronal cell bodies and synapses. α-synuclein was first identified as a component of Alzheimer's disease amyloid plaques. Abnormal platelet function in Alzheimer's disease has been demonstrated. During megakaryocytic differentiation α-synuclein has been found to be upregulated, while β-synuclein is downregulated, indicating that coordinate expression of synucleins may be important during hematopoetic cell differentiation. A mutant form of α-synuclein has been found in patients with early onset Parkinson's disease.

CHROMOSOMAL LOCATION

Genetic locus: SNCA (human) mapping to 4q22.1.

SOURCE

α-synuclein (211) is a mouse monoclonal antibody raised against amino acids 121-125 of α-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.

α-synuclein (211) is available conjugated to agarose (sc-12767 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-12767 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-12767 PE), fluorescein (sc-12767 FITC), Alexa Fluor® 488 (sc-12767 AF488), Alexa Fluor® 546 (sc-12767 AF546), Alexa Fluor® 594 (sc-12767 AF594) or Alexa Fluor® 647 (sc-12767 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-12767 AF680) or Alexa Fluor® 790 (sc-12767 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

α-synuclein (211) is recommended for detection of α-synuclein of 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 α-synuclein siRNA (h): sc-29619, α-synuclein shRNA Plasmid (h): sc-29619-SH and α-synuclein shRNA (h) Lentiviral Particles: sc-29619-V.

Molecular Weight of α-synuclein: 19 kDa.

Positive Controls: HEL 92.1.7 cell lysate: sc-2270, human brain extract: sc-364375 or human cerebellum extract: sc-516706.

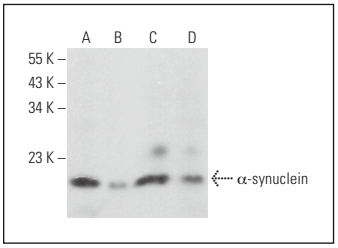
RESEARCH USE

For research use only, not for use in diagnostic procedures.

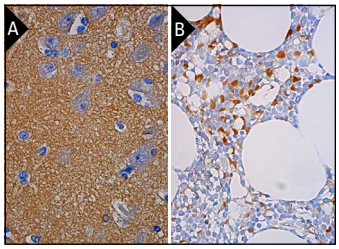
STORAGE

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

DATA



α-synuclein (211): sc-12767. Western blot analysis of α-synuclein expression in HEL 92.1.7 (**A**) and TF-1 (**B**) whole cell lysates and human brain (**C**) and human cerebellum (**D**) tissue extracts.



α-synuclein (211) HRP: sc-12767 HRP. Direct immunoperoxidase staining of formalin fixed, paraffin-embedded human cerebral cortex tissue showing neuropil staining (**A**). Direct immunoperoxidase staining of formalin fixed, paraffin-embedded, human bone marrow tissue showing cytoplasmic staining of subset of hematopoietic cells (**B**).

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. Mahul-Mellier, A.L., et al. 2014. c-Abl phosphorylates α-synuclein and regulates its degradation: implication for α-synuclein clearance and contribution to the pathogenesis of Parkinson's disease. Hum. Mol. Genet. 23: 2858-2879.
3. Zaltieri, M., et al. 2015. α-synuclein and synapsin III cooperatively regulate synaptic function in dopamine neurons. J. Cell Sci. 128: 2231-2243.
4. Yuan, J., et al. 2016. Acteoside binds to caspase-3 and exerts neuroprotection in the rotenone rat model of Parkinson's disease. PLoS ONE 11: e0162696.
5. Campolo, M., et al. 2017. The neuroprotective effect of dimethyl fumarate in a MPTP-mouse model of Parkinson's disease: involvement of reactive oxygen species/nuclear factor-κB/nuclear transcription factor related to NF-E2. Antioxid. Redox Signal. 27: 453-471.
6. Patel, D., et al. 2018. α-synuclein inhibits Snx3-retromer-mediated retrograde recycling of iron transporters in *S. cerevisiae* and *C. elegans* models of Parkinson's disease. Hum. Mol. Genet. 27: 1514-1532.
7. van Diggelen, F., et al. 2019. Two conformationally distinct α-synuclein oligomers share common epitopes and the ability to impair long-term potentiation. PLoS ONE 14: e0213663.
8. Shahnawaz, M., et al. 2020. Discriminating α-synuclein strains in Parkinson's disease and multiple system atrophy. Nature 578: 273-277.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.