

α -synuclein (211): sc-12767

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 hematopoietic 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 μ g IgG₁ 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 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-12767 HRP), 200 μ g/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 μ g/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 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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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 μ g per 100-500 μ g 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.

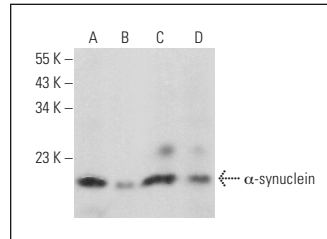
RESEARCH USE

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

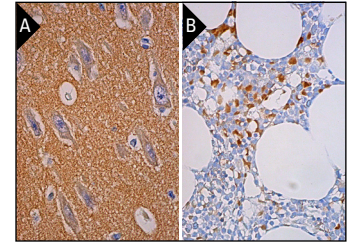
STORAGE

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

- 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.
- 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.
- Zaltieri, M., et al. 2015. α -synuclein and synapsin III cooperatively regulate synaptic function in dopamine neurons. *J. Cell Sci.* 128: 2231-2243.
- 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.
- 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- κ B/nuclear transcription factor related to NF-E2. *Antioxid. Redox Signal.* 27: 453-471.
- 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.
- 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.
- 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.