

α -synuclein (LB 509): sc-58480

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 (LB 509) is a mouse monoclonal antibody raised against Lewy bodies 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 (LB 509) is available conjugated to agarose (sc-58480 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-58480 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-58480 PE), fluorescein (sc-58480 FITC), Alexa Fluor[®] 488 (sc-58480 AF488), Alexa Fluor[®] 546 (sc-58480 AF546), Alexa Fluor[®] 594 (sc-58480 AF594) or Alexa Fluor[®] 647 (sc-58480 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-58480 AF680) or Alexa Fluor[®] 790 (sc-58480 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

α -synuclein (LB 509) 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: α -synuclein (h): 293T Lysate: sc-111729, SH-SY5Y cell lysate: sc-3812 or IMR-32 cell lysate: sc-2409.

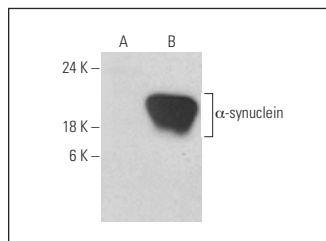
RESEARCH USE

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

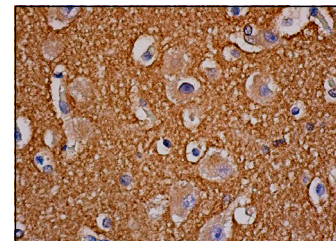
STORAGE

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

DATA



α -synuclein (LB 509) HRP: sc-58480 HRP. Direct western blot analysis of α -synuclein expression in non-transfected: sc-117752 (A) and human α -synuclein transfected: sc-111729 (B) 293T whole cell lysates.



α -synuclein (LB 509): sc-58480. Immunoperoxidase staining of formalin fixed, paraffin-embedded human cerebral cortex tissue showing neuropil staining.

SELECT PRODUCT CITATIONS

- Lee, B.R., et al. 2011. Improved immunodetection of endogenous α -synuclein. PLoS ONE 6: e23939.
- Jiang, P., et al. 2014. Nutrient deprivation induces α -synuclein aggregation through endoplasmic reticulum stress response and SREBP2 pathway. Front. Aging Neurosci. 6: 268.
- Dansithong, W., et al. 2015. Generation of SNCA cell models using zinc finger nuclease (ZFN) technology for efficient high-throughput drug screening. PLoS ONE 10: e0136930.
- Lin, Z., et al. 2016. Surgical treatment for primary pulmonary lymphoepithelioma-like carcinoma. Interact. Cardiovasc. Thorac. Surg. 23: 41-46.
- Wu, K.C., et al. 2017. The critical role of Nramp1 in degrading α -synuclein oligomers in microglia under iron overload condition. Neurobiol. Dis. 104: 61-72.
- Zhang, S., et al. 2018. Degradation of α -synuclein by dendritic cell factor 1 delays neurodegeneration and extends lifespan in *Drosophila*. Neurobiol. Aging 67: 67-74.
- Maki, R.A., et al. 2019. Human myeloperoxidase (hMPO) is expressed in neurons in the substantia nigra in Parkinson's disease and in the hMPO- α -synuclein-A53T mouse model, correlating with increased nitration and aggregation of α -synuclein and exacerbation of motor impairment. Free Radic. Biol. Med. 141: 115-140.
- Siracusa, R., et al. 2020. Anti-inflammatory and anti-oxidant activity of Hidrox[®] in rotenone-induced Parkinson's disease in mice. Antioxidants 9: 824.

PROTOCOLS

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