10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

SNCA Antibody

Catalog # ASC11829

Product Information

Application	WB, IF, E, IHC-P
Primary Accession	P37840
Other Accession	NP_000336, 6806898
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	14460
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	SNCA antibody can be used for detection of SNCA by Western blot at 1 - 2 g/ml. Antibody can also be used for Immunohistochemistry starting at 5 g/mL. For immunofluorescence start at 20 g/mL.

Additional Information

Gene ID	6622
Other Names	Alpha-synuclein, Non-A beta component of AD amyloid, Non-A4 component of amyloid precursor, NACP, SNCA, NACP, PARK1
Target/Specificity	SNCA; SNCA antibody is human, mouse and rat reactive. At least three isoforms of SNCA are known to exist.
Reconstitution & Storage	SNCA antibody can be stored at 4℃ for three months and -20℃, stable for up to one year.
Precautions	SNCA Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	SNCA
Synonyms	NACP, PARK1
Function	Neuronal protein that plays several roles in synaptic activity such as regulation of synaptic vesicle trafficking and subsequent neurotransmitter release (PubMed:20798282, PubMed:26442590, PubMed:28288128, PubMed:30404828). Participates as a monomer in synaptic vesicle exocytosis by enhancing vesicle priming, fusion and dilation of exocytotic fusion pores (PubMed:28288128, PubMed:30404828). Mechanistically, acts by increasing local Ca(2+) release from microdomains which is essential for the enhancement of ATP-induced exocytosis (PubMed:30404828). Also acts as a

	molecular chaperone in its multimeric membrane-bound state, assisting in the folding of synaptic fusion components called SNAREs (Soluble NSF Attachment Protein REceptors) at presynaptic plasma membrane in conjunction with cysteine string protein-alpha/DNAJC5 (PubMed:20798282). This chaperone activity is important to sustain normal SNARE-complex assembly during aging (PubMed:20798282). Also plays a role in the regulation of the dopamine neurotransmission by associating with the dopamine transporter (DAT1) and thereby modulating its activity (PubMed:26442590).
Cellular Location	Cytoplasm. Membrane Nucleus Synapse. Secreted. Cell projection, axon {ECO:0000250|UniProtKB:O55042}. Note=Membrane-bound in dopaminergic neurons (PubMed:15282274). Expressed and colocalized with SEPTIN4 in dopaminergic axon terminals, especially at the varicosities (By similarity). {ECO:0000250|UniProtKB:O55042, ECO:0000269|PubMed:15282274}
Tissue Location	Highly expressed in presynaptic terminals in the central nervous system. Expressed principally in brain

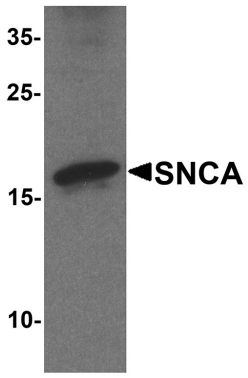
Background

Alpha-Synuclein (SNCA) is a hallmark of Alzheimer's disease (1,2). It is a cytoplasmic protein that is predominantly expressed in the central nervous system (2). SNCA reduces neuronal responsiveness to various apoptotic stimuli, leading to the decreased caspase-3 activation. SNCA may be involved in the regulation of dopamine release and transport and induces fibrillization of microtubule-associated protein tau (3). Defects in SNCA are associated with familial Parkinson's disease (4,5).

References

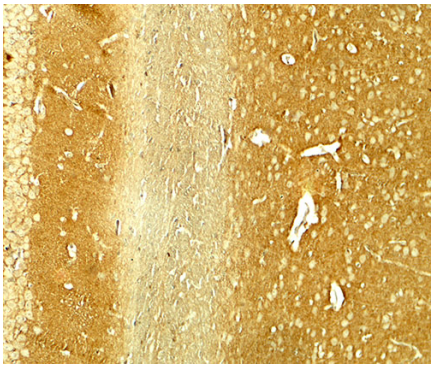
Ueda K, Fukushima H, Masliah E, et al. Molecular cloning of cDNA encoding an unrecognized component of amyloid in Alzheimer disease. Proc. Natl. Acad. Sci. USA 1993; 90:11282-6.
Pronin AN, Morris AJ, Surguchov A, et al. Synucleins are a novel class of substrates for G protein-coupled receptor kinases. J. Biol. Chem. 2000; 275:26515-22.
Oaks AW, Frankfurt M, Finkelstein DI, et al. Age-dependent effects of A53T alpha-synuclein on behavior and dopaminergic function. PLoS One 2013; 8:e60378.
Polymeropoulos MH, Lavedan C, Leroy E, et al. Mutation in the alpha-synuclein gene identified in families with Parkinson's disease. Science 1997; 276:2045-7.

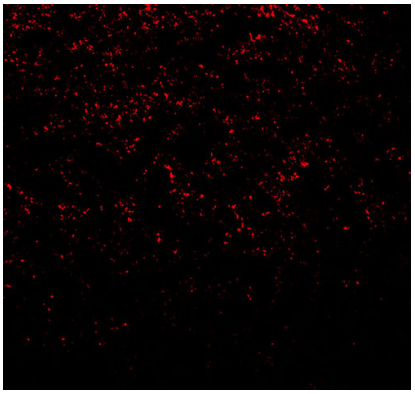
Images



Western blot analysis of SNCA in mouse cerebellum tissue lysate with SNCA antibody at 1 µg/ml.

Immunohistochemistry of SNCA in rat brain tissue with SNCA antibody at 5 µg/ml.





Immunofluorescence of SNCA in rat brain tissue with SNCA antibody at 20 µg/ml.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.