

**SNCA Antibody**  
Catalog # ASC11829**Specification****SNCA Antibody - Product Information**

|                   |   |
|-------------------|---|
| Application       | WB, IHC, IF   |
| Primary Accession | <a href="#">P37840</a>  |
| Other Accession   | <a href="#">NP_000336</a> , <a href="#">6806898</a>   |
| Reactivity        | Human, Mouse, Rat   |
| Host              | Rabbit  |
| Clonality         | Polyclonal  |
| Isotype           | IgG   |
| Calculated MW     | Predicted: 12 kDa   |
| Application Notes | Observed: 16 kDa KDa<br>SNCA antibody can be used for detection of SNCA by Western blot at 1 - 2 µg/ml.<br>Antibody can also be used for Immunohistochemistry starting at 5 µg/mL.<br>For immunofluorescence start at 20 µg/mL. |

**SNCA Antibody - Additional Information**

Gene ID 6622

**Target/Specificity**

SNCA; SNCA antibody is human, mouse and rat reactive. At least three isoforms of SNCA are known to exist.

**Reconstitution & Storage**

Antibody can be stored at 4°C up to one year. Antibodies should not be exposed to prolonged high temperatures.

**Precautions**

SNCA Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

**SNCA Antibody - 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](http://www.uniprot.org/citations/20798282), PubMed: [26442590](http://www.uniprot.org/citations/26442590), PubMed: [28288128](http://www.uniprot.org/citations/28288128), PubMed: [30404828](http://www.uniprot.org/citations/30404828)). Participates

as a monomer in synaptic vesicle exocytosis by enhancing vesicle priming, fusion and dilation of exocytotic fusion pores (PubMed:<a href="http://www.uniprot.org/citations/28288128" target="\_blank">28288128</a>, PubMed:<a href="http://www.uniprot.org/citations/30404828" target="\_blank">30404828</a>). Mechanistically, acts by increasing local Ca(2+) release from microdomains which is essential for the enhancement of ATP-induced exocytosis (PubMed:<a href="http://www.uniprot.org/citations/30404828" target="\_blank">30404828</a>). Acts also 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:<a href="http://www.uniprot.org/citations/20798282" target="\_blank">20798282</a>). This chaperone activity is important to sustain normal SNARE-complex assembly during aging (PubMed:<a href="http://www.uniprot.org/citations/20798282" target="\_blank">20798282</a>). Also plays a role in the regulation of the dopamine neurotransmission by associating with the dopamine transporter (DAT1) and thereby modulating its activity (PubMed:<a href="http://www.uniprot.org/citations/26442590" target="\_blank">26442590</a>).

### 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

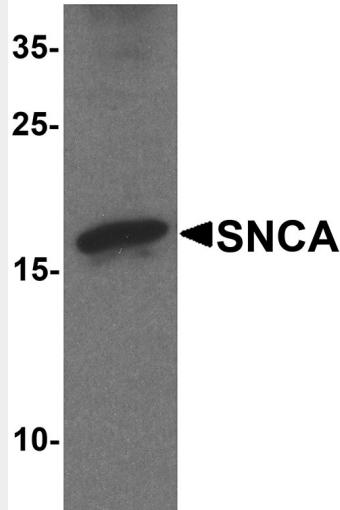
### SNCA Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

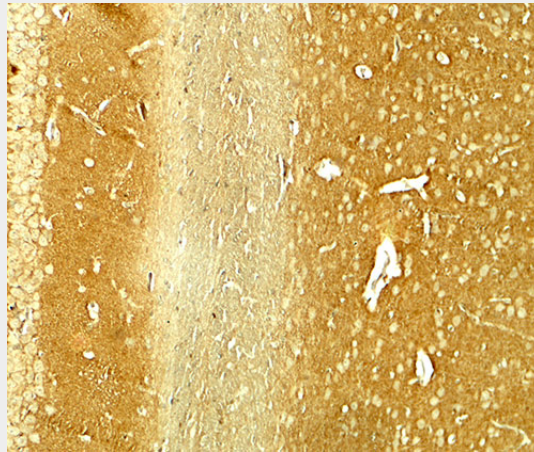
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

### SNCA Antibody - Images

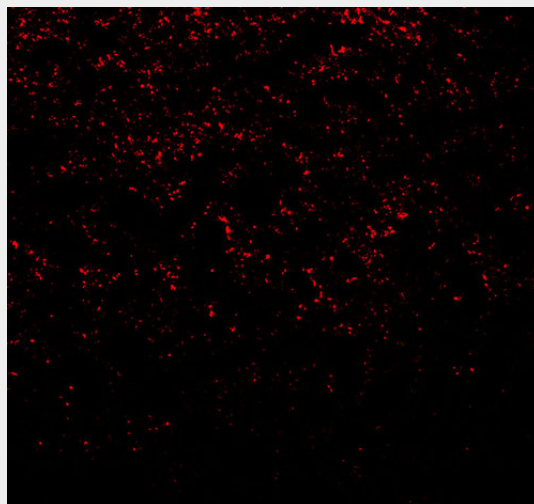




Western blot analysis of SNCA in mouse cerebellum tissue lysate with SNCA antibody at 1  $\mu$ g/ml.



Immunohistochemistry of SNCA in rat brain tissue with SNCA antibody at 5  $\mu$ g/ml.



Immunofluorescence of SNCA in rat brain tissue with SNCA antibody at 20  $\mu$ g/ml.

### **SNCA Antibody - 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).

### **SNCA Antibody - 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.