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SNCA Antibody
Purified Mouse Monoclonal Antibody
Catalog # AO1060a

Specification

SNCA Antibody - Product Information

Application	**WB, IHC**
Primary Accession	P37840
Reactivity	**Human**
Host	**Mouse**
Clonality	**Monoclonal**

Description
Alpha-synuclein (SNCA), with 140-amino acid protein (about 15kDa), belongs to the synuclein family, which also includes beta- and gamma-synuclein. SNCA is a soluble protein, expressed principally in the brain but also expressed in low concentrations in all tissues examined (except liver). SNCA is implicated in the regulation of dopamine release and transport. The triplication of the SNCA can cause Parkinson disease (PD) and diffuse Lewy body disease within the same kindred. SNCA peptides are a major component of amyloid plaques in the brains of patients with Alzheimer's disease. Immunohistochemistry for SNCA has become the histological technique of choice for the diagnosis for Parkinson's disease, Dementia with Lewy bodies and Multiple System Atrophy.

Immunogen
Purified recombinant fragment of SNCA expressed in E. Coli.

Formulation
Ascitic fluid containing 0.03% sodium azide.

SNCA Antibody - 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

Dilution
WB~~1/500 - 1/2000
IHC~~1/200 - 1/1000

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

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, 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). 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: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

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 Cytomety
- Cell Culture

SNCA Antibody - Images

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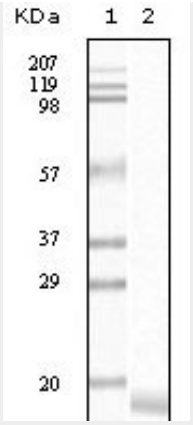

Figure 1: Western blot analysis using SNCA mouse mAb against truncated SNCA recombinant protein.

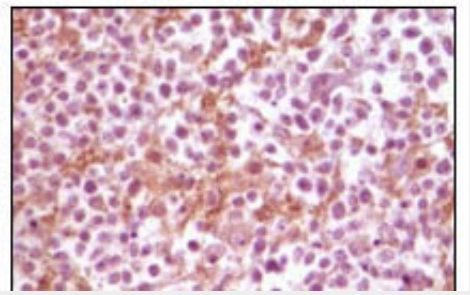

Figure 2: Immunohistochemical analysis of paraffin-embedded human glioma tissue, showing membrane localization using SNCA mouse mAb with DAB staining.

SNCA Antibody - References

1. J. Johnson, S. M. Hague, M. Hanson. Neurology, Aug 2004; 63: 554 – 556 2. Hong Tao Li, Xiao Jing Lin, Yuan Yuan Xie. Protein Pept Lett. 2006;13(4):385-90.