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SNCA Antibody

Purified Mouse Monoclonal Antibody
Catalog # AO1060a

Product Information

Application	WB, IHC, E
Primary Accession	P37840
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Clone Names	2B2D1; 2B2A11
Calculated MW	14460
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.

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 E~~N/A
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.

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

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.

Images

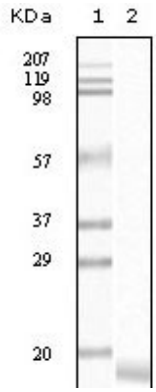
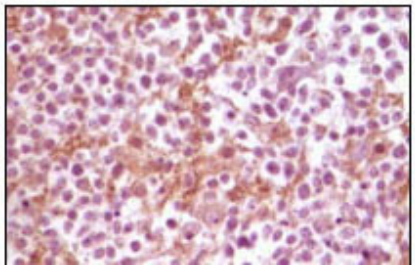


Figure 1: Western blot analysis using SNCA mouse mAb against truncated SNCA recombinant protein.

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



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