

Alpha-synuclein Antibody (N-term) Blocking Peptide

Synthetic peptide
Catalog # BP6401a

Specification

Alpha-synuclein Antibody (N-term) Blocking Peptide - Product Information

Primary Accession [P37840](#)
Other Accession [NP_009292](#)

Alpha-synuclein Antibody (N-term) Blocking Peptide - 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

The synthetic peptide sequence used to generate the antibody [AP6401a](/products/AP6401a) was selected from the N-term region of human Alpha-synuclein. A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

Format

Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions

This product is for research use only. Not for use in diagnostic or therapeutic procedures.

Alpha-synuclein Antibody (N-term) Blocking Peptide - 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: [28288128](http://www.uniprot.org/citations/28288128))

target="_blank">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

Alpha-synuclein Antibody (N-term) Blocking Peptide - Protocols

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

- [Blocking Peptides](#)

Alpha-synuclein Antibody (N-term) Blocking Peptide - Images

Alpha-synuclein Antibody (N-term) Blocking Peptide - Background

Alpha Synuclein is implicated in the regulation of dopamine release and transport. It is a soluble protein, expressed principally in the brain but also expressed in low concentrations in all tissues examined (except liver). In the nervous system, alpha Synuclein is primarily located at presynaptic terminals and is found membrane bound in dopaminergic neurons. It can form filamentous aggregates that are the major non amyloid component of intracellular inclusions in several neurodegenerative diseases (synucleinopathies), including Parkinson's Disease. Alpha Synuclein induces fibrillization of microtubule associated protein tau and reduces neuronal responsiveness to various apoptotic stimuli, leading to a decreased caspase 3 activation. Alpha synuclein is a protein phosphorylated predominantly on serine residues. Additional splicing may be present but the full-length nature of these variants has not been determined. This variant (NACP112) lacks an alternate in-frame segment, compared to variant NACP140, resulting in a shorter protein (isoform NACP112) that has a distinct C-terminus, compared to isoform NACP140. This antibody recognizes both NACP112 and NACP140.

Alpha-synuclein Antibody (N-term) Blocking Peptide - References

Kumru, H., et al., Ann. Neurol. 56(4):599-603 (2004).Pigullo, S., et al., Parkinsonism Relat. Disord. 10(6):357-362 (2004).Yao, D., et al., Proc. Natl. Acad. Sci. U.S.A. 101(29):10810-10814 (2004).West, A.B., et al., J. Biol. Chem. 279(28):28896-28902 (2004).Wang, F., et al., Genes Chromosomes Cancer 40(2):85-96 (2004).