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Antibodies to α -Synuclein (NACP)

α -Synuclein (NACP) antibodies. Catalog # NCP-101AP, FITC-NCP, P-NCP and PC-NCP.

Accession # AAA98487 and Alternate Nomenclature: SNCA; PD1; PARK1; PARK4; MGC110988

NACP/ α -Synuclein is a precursor for non-amyloid beta/A4 protein component of Alzheimer's disease amyloid (NAC) (1). It is a presynaptic protein located at human chromosome 4q21 (2). It belongs to the synulcein family of protein which also includes beta and gamma-synuclein. Studies have implicated NACP in neuronal plasticity specifically due to its unique expression, mainly in the telencephalon during maturation (3). After A beta, NAC is the second component identified chemically in the purified Alzheimer's disease amyloid preparation. NAC peptide sequence has a strong tendency to form beta-structures (4). Hence, NACP should help unearth the mechanisms of amyloidosis in Alzheimer disease.

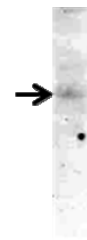
An abnormality in transport, metabolism or NACP function impairs synaptic function causing neuronal degradation in several neurodegenerative diseases (5). For example, a point mutation in NACP may be the cause of familial Parkinsons disease. NACP has been identified as a component of Lewy bodies found in patients with Parkinson's disease or dementia with Lewy bodies. Alzheimer patients usually have an abnormal accumulation of NACP at their synapses. Furthermore, disarrangement of NACP is linked with memory disturbance (6). NACP is approximately a 14kDa protein (112 aa). It is abundantly expressed in brain. NACP mRNA is also expressed in brain and other tissues except liver.

The NACP-selective antibodies were generated against purified NACP protein. NACP-antibodies are affinity purified over immobilized antigen based chromatography, and the purified immunoglobulins are stabilized in antibody stabilization buffer. FabGennix Int. Inc., will also provide limited quantities of antigenic blocking protein for NCP-101AP antibody. Antibodies to NACP (NCP-101AP) will label ~14kDa protein in Western blot positive control samples for NACP and several other tissues. FabGennix Inc. will also conjugate antibodies with secondary enzymes (alk-Pase or HRP) or fluorescent probes upon request at nominal cost.

Catalog #	Host Species	Nature	Cross reactivity	Quantity	Volume
NCP-101 AP	Rabbit	Affinity purified NACP antibodies	H, others n.d	100 ug	200ul
FITC- NCP	Rabbit	FITC-conjugated NACP antibody	H, others n.d	100ug	200ul
P- NCP	n/a	Antigenic blocking peptide for NCP-101AP	n/a	250 ug	100ul
PC- NCP	n/a	Western blotting positive control for NACP	n/a	For 5 appl	Inquire

R = rat; M = mouse; H = human; C = chicken; monk = monkey ; * not all variants are labeled equally

- Immunogen:** Synthetic peptides corresponding to unique epitope on NACP. The NACP peptide was covalently modified post-synthetically covalently modified to achieve desired antigenicity.
- Concentration:** NCP-101AP: IgG concentration 0.64-0.72 mg/ml in antibody stabilization buffer.
- Applications:** Antibody NCP-101AP is ideal for WB and ELISA applications, other applications have not been tested. The species cross reactivity for these antibodies have not been examined fully. The dilutions for this antibody is for reference only, investigators are expected to determine the optimal conditions for specific assay. WB: > 1:500; IMM & i.p pull-down assays: n.d; IHC n.d. ELISA <1:10,000. Application of this antibody in protocols not listed here does not necessarily exclude its use in such procedures.
- Reactivity:** This antibody detects a single band of approximately 14kDa in PC-NCP samples.
- Protocols:** Standard protocol for various applications (WB; IMM and IHC) of this antibody is provided with the product specification sheet, however, FabGennix Inc., strongly recommends investigators to optimize conditions for use of this antibody in their laboratories.
- Form/Storage:** The antiserum is supplied in antibody stabilization buffer. The affinity-purified antibodies are isolated on immobilized antigen-affinity column and supplied as stabilized product. Store at -20°C for long-term storage. FabGennix Inc. does not recommend storage of very dilute antibody solutions unless they are prepared in specially formulated multi use antibody dilution buffer (Cat # DiluOBuffer). Working solutions of antibodies in DiluOBuffer should be filtered through 0.45um filter after every use for long-term storage.



Western blot of NACP. The NACP antibody (Cat # NCP-101AP) at 1:500 in DiluOBuffer was probed with PC-NCP sample. The MW of NACP is approximately 14kDa.

Notes: Briefly centrifuge to collect liquid, heat or boil PC-NCP tube for 1-2 minutes to dissolve any precipitate before use. This product is "ready-to-use" for electrophoresis. After thawing store at room temperature, Repeated freezing and thawing may result in appearance of higher MW immunoreactive bands.

New Reagents: Now you can recycle your western blots (nitrocellulose, supported membranes and PVDF membranes) by using our StripOBuffer (Cat FGI-1989). Each stripping is guaranteed to give better signal (up to 8 stripping). No strong pungent smell of reducing agents or heating required. Block in 5X diluOBuffer and you are ready for blotting with a new antibody

References:

1. Ueda K, Fukushima H, Malisha E, Xia Y, Iwai A, Yoshimoto M, Otero DA, Kondo J, Ihara Y, Saitoh T. Molecular cloning of cDNA encoding an unrecognized component of amyloid in Alzheimer disease. Proc Natl Acad Sci U S A. 1993 December; 90(23): 11282-11286.
2. Campion D, Martin C, Heilig R, Charbonnier F, Moreau V, Flaman JM, Petit JL, Hannequin D, Brice A, Frebourg T. The NACP/synuclein gene: chromosomal assignment and screening for alterations in Alzheimer disease. Genomics. 1995 March; 26(2): 254-257.
3. Iwai A. Properties of NACP/alpha-synuclein and its role in Alzheimer's disease. Biochim Biophys Acta. 2001 July; 1502(1): 95-109.
4. Weinreb PH, Zhen W, Poon AW, Conway KA, Lansbury PT Jr. NACP, a protein implicated in Alzheimer's disease and learning, is natively unfolded. Biochemistry. 1996 October; 35(43): 13709-13715.
5. Kaplan B, Ratner V, Haas E. Alpha-synuclein: its biological function and role in neurodegenerative diseases. J Mol Neurosci. 2003 April; 20(2): 83-92.
6. Wirths O, Bayer TA. Alpha-synuclein, Abeta and Alzheimer's disease. Prog Neuropsychopharmacol Biol Psychiatry. 2003 February; 27(1): 103-108.

* For users who may require large amounts of NCP-101AP, please enquire about bulk material discounts.
This Product is for Research Use Only and is NOT intended for use in humans or clinical diagnosis.

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