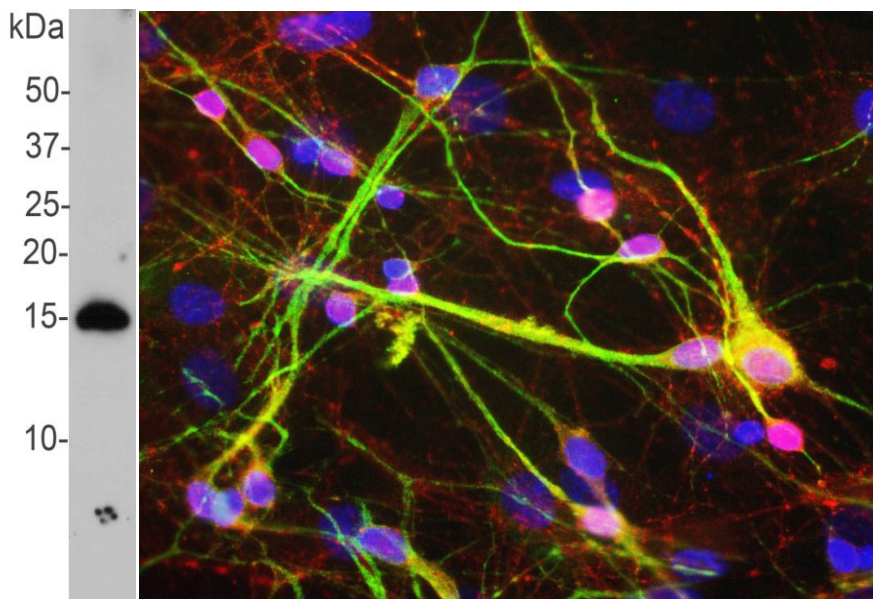


**Catalogue# CPCA-SNCA-AP: Chicken Polyclonal to  $\alpha$ -Synuclein-SNCA**

**The Immunogen:**  [\$\alpha\$ -synuclein](#) is a member of the synuclein family, the other two proteins being  $\beta$  and  $\gamma$  synuclein.  $\alpha$ -synuclein was originally isolated as a major synaptic vesicle associated protein from the electric organ of the fish *Torpedo* (1). Direct homologues of  $\alpha$ -synuclein are found in all vertebrates. Later work connected  $\alpha$ -synuclein with human brain pathology, when a protein originally identified as a component of NAC, the "Non-Amyloid beta Component of Alzheimer's disease amyloid" proved to be a peptide derived from  $\alpha$ -synuclein (2). The  $\alpha$ -synuclein protein is therefore, sometimes known as NAC precursor or NACP. Further work showed that  $\alpha$ -synuclein is a major component of the Lewy bodies of Parkinson's disease and point mutations of  $\alpha$ -synuclein proved to be causative of some forms of familial Parkinson's disease (3, 4, 5). However, despite being discovered as a component of amyloid preparations,  $\alpha$ -synuclein is apparently not a major component of the senile plaques of Alzheimer's disease (6). Early onset Parkinson's disease may be caused by a duplication or triplication of one of the  $\alpha$ -synuclein genes (7, 8).  $\alpha$ -synuclein is also found in the Lewy bodies of patients with diffuse Lewy body disease and inclusions in glial cells in the brains of patients with multiple system atrophy (MSA) and amyotrophic lateral sclerosis (ALS).  $\alpha$ -synuclein is heavily expressed in brain and appears to be localized primarily to presynaptic regions, though not with a typical synaptic vesicle distribution pattern. The synuclein proteins appear to have little 3D structure in solution, and probably belong to the family of "intrinsically unstructured proteins" which only adopt a well-defined conformation when bound to other proteins or membrane lipids (9). An excellent recent review of the role of  $\alpha$ -synuclein in health and disease was recently published by Mark Cookson (10). The HGNC name for this protein is SNCA.

We are OEM suppliers of this antibody- in other words we manufactured it, characterized it and generated the data presented on this page. This antibody is available from several other vendors, but we can supply it more cheaply and we can provide you with more detailed information on the properties of the antibody.



**Figures: Left:** Blot of CPCA-SNCA-AP on crude extract of rat brain, showing strong band at 15 kDa. **Right:** Mixed rat neuron-glia cultures stained with CPCA-SNCA-AP, polyclonal antibody to  $\alpha$ -synuclein (red) and monoclonal antibody to MAP2: [MAP2-4H5](#) (green). The  $\alpha$ -synuclein antibody stains vesicular structures the perikarya and processes of the neurons in this image. Note that some of the neuronal perikarya contain much more  $\alpha$ -synuclein than others. The blue channel shows the localization of DNA.

**Antibody Characteristics:** This antibody was generated in chicken by standard procedures and immunoglobulin was extracted from egg yolk. The antibody is provided in the form of affinity purified antibody at a concentration of 1 mg/mL. The preparation contains 5 mM sodium azide as a preservative. The epitope for CPCA-SNCA-AP is in the region 61-95 which correspond to the "Non-Amyloid beta Component of Alzheimer's disease amyloid" (NAC, see above). Store at 4°C or -20°C. Avoid repeat freezing and thawing.

**Suggestions for use:** Try at dilutions of 1:1,000 and higher for immunofluorescence. For western blots try at 1:2,000. The  $\alpha$ -Synuclein runs at about 15 kDa on SDS-PAGE gels.

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**Limitations:** This product is for research use only and is not approved for use in humans or in clinical diagnosis.

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