

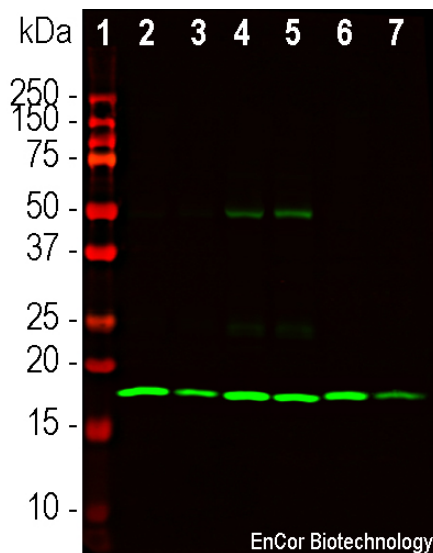
Ordering Information
 Web www.encorbio.com
 Email admin@encorbio.com
 Phone 352-372-7022
 Fax 352-372-7066

HGNC Name: SNCA
UniProt: Q16143
RRID: AB_2860579
Immunogen: C-terminal peptide of human β-synuclein EPEGESYEDPPQEEYQEYEPEA coupled to KLH
Format: Purified antibody at 1mg/mL in 50% PBS, 50% glycerol plus 5mM Na₂S₂O₃
Storage: Store at 4°C for short term, for longer term at -20°C
Recommended dilutions:
 WB:1:1,000 IF/ICC: 1:500-1,000 IHC: 1:1,000

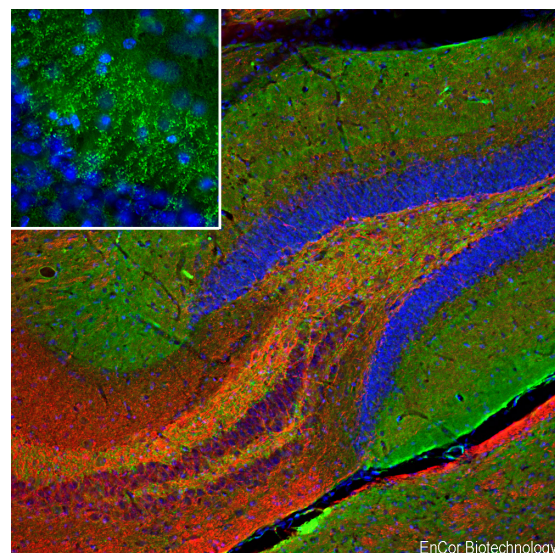
References:

1. Maroteaux L, Campanelli JT, Scheller RH. Synuclein: a neuron-specific protein localized to the nucleus and presynaptic nerve terminal. *J. Neurosci.* 8:2804-15 (1988).
2. Lavedan C. The Synuclein Family. *Genome Research* 8:871-80 (1998).
3. Polymeropoulos, MH et al. Mutation in the alpha-synuclein gene identified in families with Parkinson's disease. *Science* 276:2045-7 (1997).
4. Kruger, R et al. Ala30-to-Pro mutation in the gene encoding alpha-synuclein in Parkinson's disease. *Nature Genet.* 18:106-8 (1998).
5. Chartier-Harlin, M-C. et al. Alpha-synuclein locus duplication as a cause of familial Parkinson's disease. *Lancet* 364:1167-9 (2004).
6. Ji H. et al. Identification of a breast cancer-specific gene, BCSG1, by direct differential cDNA sequencing. *Cancer Res.* 57:759-64 (1997).
7. Greten-Harrison, B. et al. αβγ-Synuclein triple knockout mice reveal age-dependent neuronal dysfunction. *PNAS* 107:19573-8 (2001).

Applications	Host	Isotype	Molecular Wt.	Species Cross-Reactivity
WB, IF/ICC, IHC	Mouse	IgG1	17 kDa by SDS-page	Hu, Rt, Ms, Co, Pi



Western blot analysis of different tissue lysates using mouse mAb to β-synuclein, MCA-6A10, dilution 1:1,000 in green: [1] protein standard (red), [2] rat cortex [3] rat cerebellum, [4] mouse cortex, [5] mouse cerebellum, [6] cow cortex, and [7] cow cerebellum. Strong band at about 17 kDa corresponds to β-synuclein protein.



Immunofluorescent analysis of mouse hippocampus section stained with mouse mAb to β-synuclein, MCA-6A10, dilution 1:500 in green, and costained with rabbit pAb to C-terminal peptide of rat NF-L, RPCA-NF-L-ct, dilution 1:5,000, in red. The blue is Hoechst staining of nuclear DNA. Following transcardial perfusion of mouse with 4% paraformaldehyde, brain was post fixed for 24 hours, cut to 45μM, and free-floating sections were stained with above antibodies. The β-synuclein antibody detects protein concentrated in synaptic regions, while the NF-L-ct antibody labels dendrites and axons of neuronal cells.

Background:

β-synuclein is a member of the synuclein protein family, the other two members being α and γ-synuclein, each protein being coded for by a distinct but related gene. α-synuclein was originally isolated as a major synaptic vesicle associated protein from the electric organ of the fish *Torpedo* (1), and direct homologues of α-synuclein are found in all vertebrates. Later work connected α-synuclein expression with several human brain pathologies, so that it is a major component of the Lewy bodies of Parkinson's disease (2-5). β-synuclein was isolated as a component of normal and diseased human brain as a protein clearly related to but distinct from α-synuclein (6). The human β-synuclein molecule is 134 amino acids in size compared to 140 amino acids for α-synuclein, and the N-terminal halves of the two molecules are virtually identical while the C-terminal regions is more variable. As a result we made our new β-synuclein antibodies to this region. Like α-synuclein, β-synuclein is heavily concentrated in the brain in presynaptic regions. A third synuclein, γ-synuclein was originally identified as breast cancer specific gene 1, (BCSG1), but is also heavily expressed in brain and also has a similar N-terminal sequence. The three synucleins appear to have overlapping functions so genetic deletion of all three in mice is required to obtain serious neurological deficits (7).

The MCA-6A10 antibody was made against the C-terminal peptide of human β-synuclein coupled to a carrier protein, and recognizes full length human and rodent β-synuclein specifically both in western blots and in immunocytochemical experiments. The antibody works well for IHC of rodent and human specimens and is completely specific for β-synuclein and does not bind α or γ-synuclein, see these data under the "Additional Info" tag. EnCor also provides a rabbit polyclonal to β-synuclein, RPCA-SCNB, and high quality antibodies to α-synuclein MCA-2A7 and CPCA-SCNA.

FOR RESEARCH USE ONLY. NOT INTENDED FOR DIAGNOSTIC OR THERAPEUTIC USE.

Abbreviation Key:

mAb—Monoclonal Antibody pAb—Polyclonal Antibody WB—Western Blot IF—Immunofluorescence ICC—Immunocytochemistry
 IHC—Immunohistochemistry E—ELISA Hu—Human Mo—Monkey Do—Dog Rt—Rat Ms—Mouse Co—Cow Pi—Pig Ho—Horse Ch—Chicken
 Dr—D. rerio Dm—D. melanogaster Sm—S. mutans Ce—C. elegans Sc—S. cerevisiae Sa—S. aureus Ec—E. coli.