

Cat.No. 128 002; Polyclonal rabbit antibody, 200 μ l antiserum (lyophilized)

Data Sheet

Reconstitution/ Storage	200 μ l antiserum, lyophilized. For reconstitution add 200 μ l H ₂ O, then aliquot and store at -20°C until use.
Applications	WB: 1 : 1000 (AP staining) IP: yes ICC: 1 : 500 IHC: 1 : 500 IHC-P/FFPE: yes
Immunogen	Synthetic peptide corresponding to AA 2 to 25 from human α -Synuclein (UniProt Id: P37840)
Reactivity	Reacts with: rat (P37377, Q63754), mouse (O55042, Q91ZZ3), zebrafish, human (P37840, Q16143). Other species not tested yet.
Specificity	Recognizes α synuclein and β synuclein.

TO BE USED IN VITRO / FOR RESEARCH ONLY NOT TOXIC, NOT HAZARDOUS, NOT INFECTIOUS, NOT CONTAGIOUS

Synuclein proteins are produced by three genes. They share structural resemblance to apolipoproteins, but are abundant in the neuronal cytosol and present in enriched amounts at presynaptic terminals. Synucleins have been specifically implicated in three diseases: Alzheimer's (AD), Parkinson's (PD) and breast cancer. In AD, a peptide derived from α -synuclein forms an intrinsic component of plaque amyloid. In PD, an α -synuclein allele is genetically linked to several independent familial cases, and the protein appears to accumulate in Lewy bodies. In breast cancer, increased expression of γ -synuclein correlates with disease progression. In songbirds, α -synuclein expression is correlated with plasticity in the developing song control system. Although the normal function of synucleins is unknown, a role in synaptic plasticity seems likely.

Selected References SYSY Antibodies

Mitochondrial translocation of alpha-synuclein is promoted by intracellular acidification.
 Cole NB, Dieuliis D, Leo P, Mitchell DC, Nussbaum RL
 Experimental cell research (2008) 314(10): 2076-89. **WB, ICC, EM**

Composition of isolated synaptic boutons reveals the amounts of vesicle trafficking proteins.
 Wilhelm BG, Mandad S, Truckenbrodt S, Kröhnert K, Schäfer C, Rammner B, Koo SJ, Claßen GA, Krauss M, Haucke V, Urlaub H, et al.
 Science (New York, N.Y.) (2014) 344(6187): 1023-8. **WB, ICC, IHC; tested species: mouse, rat**

Over-expression of alpha-synuclein in the nervous system enhances axonal degeneration after peripheral nerve lesion in a transgenic mouse strain.
 Siebert H, Kahle PJ, Kramer ML, Isik T, Schlüter OM, Schulz-Schaeffer WJ, Brück W
 Journal of neurochemistry (2010) 114(4): 1007-18. **WB**

Brain alpha-synuclein accumulation in multiple system atrophy, Parkinson's disease and progressive supranuclear palsy: a comparative investigation.
 Tong J, Wong H, Guttman M, Ang LC, Forno LS, Shimadzu M, Rajput AH, Muentner MD, Kish SJ, Hornykiewicz O, Furukawa Y, et al.
 Brain : a journal of neurology (2010) 133(Pt 1): 172-88. **WB; tested species: human**

Molecular anatomy of a trafficking organelle.
 Takamori S, Holt M, Stenius K, Lemke EA, Grønborg M, Riedel D, Urlaub H, Schenck S, Brügger B, Ringler P, Müller SA, et al.
 Cell (2006) 127(4): 831-46. **WB**

alpha-Synuclein protects SH-SY5Y cells from dopamine toxicity.
 Colapinto M, Mila S, Giraudo S, Stefanazzi P, Molteni M, Rossetti C, Bergamasco B, Lopiano L, Fasano M
 Biochemical and biophysical research communications (2006) 349(4): 1294-300. **WB**

Unchanged survival rates of 14-3-3gamma knockout mice after inoculation with pathological prion protein.
 Steinacker P, Schwarz P, Reim K, Brechlin P, Jahn O, Kratzin H, Aitken A, Wiltfang J, Aguzzi A, Bahn E, Baxter HC, et al.
 Molecular and cellular biology (2005) 25(4): 1339-46. **WB**

A broken alpha-helix in folded alpha-Synuclein.
 Chandra S, Chen X, Rizo J, Jahn R, Südhof TC
 The Journal of biological chemistry (2003) 278(17): 15313-8. **WB**

Selected General References

Genetics of Parkinson's disease.
 Polymeropoulos MH
 Annals of the New York Academy of Sciences (2000) 920: 28-32.

Depression in alpha-synucleinopathies: prevalence, pathophysiology and treatment.
 Stefanova N, Seppi K, Scherfler C, Puschban Z, Wenning GK
 Journal of neural transmission. Supplementum (2000) (60): 335-43.

The synucleins: a family of proteins involved in synaptic function, plasticity, neurodegeneration and disease.
 Clayton DF, George JM
 Trends in neurosciences (1998) 21(6): 249-54.

Filamentous nerve cell inclusions in neurodegenerative diseases.
 Goedert M, Spillantini MG, Davies SW
 Current opinion in neurobiology (1998) 8(5): 619-32.

Genetic classification of primary neurodegenerative disease.
 Hardy J, Gwinn-Hardy K
 Science (New York, N.Y.) (1998) 282(5391): 1075-9.

The synuclein family.
 Lavedan C
 Genome research (1998) 8(9): 871-80.

New developments in understanding the etiology of Parkinson's disease and in its treatment.
 Lozano AM, Lang AE, Hutchison WD, Dostrovsky JO
 Current opinion in neurobiology (1998) 8(6): 783-90.