

alpha-Synuclein

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alpha-Synuclein, one of the best markers for presynaptic terminals, is a neuronal protein predominantly expressed in the brain and is encoded by the SNCA gene. alpha-synuclein consists of 140 amino acids and exists in an equilibrium between a soluble and a membrane-bound state. Although the physiological function of alpha-synuclein remains unknown, its localization at pre-synaptic terminals and the deficiencies in synaptic transmissions observed in response to knock down or overexpression of alpha-synuclein suggest that alpha-synuclein has a role in the regulation of neurotransmitter release, synaptic function and plasticity. alpha-Synuclein is now known to be involved in neurodegenerative diseases such as Parkinson's disease (PD), dementia with Lewy bodies (DLB), and multiple system atrophy. alpha-Synuclein exists predominantly as stable unfolded monomers, but under pathological conditions, it forms b-sheet-like oligomers (protofibrils), which convert into amyloid fibrils and eventually deposit into Lewy bodies. Lewy bodies are the neuropathological hallmark of PD and DLB. (*Nat Rev Neurosci.* 2013, *Cold Spring Harb Perspect Med.* 2018)

alpha-Synuclein related Products

• Recombinant Proteins

	Product name	Species	Expression system	Tagging	Purity	Applications	Cat No.
BEST	alpha-Synuclein	H	<i>E.coli</i>	Non	>95%	SDS-PAGE	SNA2001
BEST	alpha-Synuclein (lyophilized)	H	<i>E.coli</i>	Non	>95%	SDS-PAGE	SNA2001L
BEST	alpha-Synuclein (A53T)	H	<i>E.coli</i>	Non	>95%	SDS-PAGE	SNA2002
	alpha-Synuclein (A30P)	H	<i>E.coli</i>	Non	>90%	SDS-PAGE	SNA2003
	alpha-Synuclein (A30P/A53T)	H	<i>E.coli</i>	Non	>95%	SDS-PAGE	SNA2004
	alpha-Synuclein 112/NACP112	H	<i>E.coli</i>	Non	>95%	SDS-PAGE	SNA2005
	alpha-Synuclein (61-140aa)	H	<i>E.coli</i>	Non	>95%	SDS-PAGE	SNA2006
	alpha-Synuclein (96-140aa)	H	<i>E.coli</i>	Non	>95%	SDS-PAGE	SNA2007
	alpha-Synuclein (Delta-NAC)	H	<i>E.coli</i>	Non	>95%	SDS-PAGE	SNA2008
	alpha-Synuclein (1-60aa)	H	<i>E.coli</i>	Non	>95%	SDS-PAGE	SNA3009
	alpha-Synuclein E46K	H	<i>E.coli</i>	Non	>95%	SDS-PAGE	SNA4001
	alpha-Synuclein (1-95aa)	H	<i>E.coli</i>	Non	>95%	SDS-PAGE	SNA4002
	alpha-Synuclein	M	<i>E.coli</i>	Non	>95%	SDS-PAGE	ATGP0619
	beta-Synuclein	H	<i>E.coli</i>	Non	>95%	SDS-PAGE	SNB2001
BEST	gamma-Synuclein	H	<i>E.coli</i>	Non	>90%	SDS-PAGE	SNG2001
	gamma-Synuclein	M	<i>E.coli</i>	His-Tag	>95%	SDS-PAGE	ATGP3677

H : Human M : Mouse



Neuroscience

Recombinant Proteins & Monoclonal Antibodies

Get information about research reagents for neurodegenerative disease, neuroinflammation, synaptic adhesion molecule, synaptic vesicle molecule.

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Publications

Lu J, et al. A breakdown in microglial metabolic reprogramming causes internalization dysfunction of α -synuclein in a mouse model of Parkinson's disease. *J Neuroinflammation.* 2022 May 22;19(1):113. [PMID: 35599331]
 Kobayashi J, et al. Extracellular α -synuclein enters dopaminergic cells by modulating flotillin-1-assisted dopamine transporter endocytosis. *FASEB J.* 2019 Sep;33(9):10240-10256. [PMID: 31211923]
 Førland MG, et al. Validation of a new assay for α -synuclein detection in cerebrospinal fluid. *Clin Chem Lab Med.* 2017 Feb 1;55(2):254-260. [PMID: 27474841]
 Park HJ, et al. Mesenchymal stem cells enhance α -synuclein clearance via M2 microglia polarization in experimental and human parkinsonian disorder. *Acta Neuropathol.* 2016 Nov;132(5):685-701. [PMID: 27497943]
 Rodriguez-Araujo G, et al. Low alpha-synuclein levels in the blood are associated with insulin resistance. *Sci Rep.* 2015 Jul 10;5:12081. [PMID: 26159928]

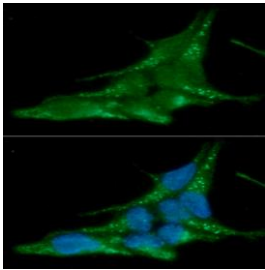
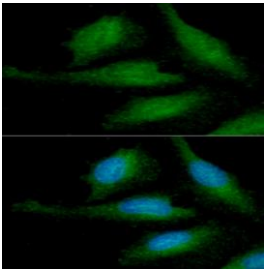
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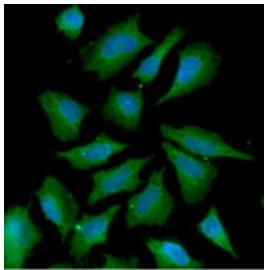
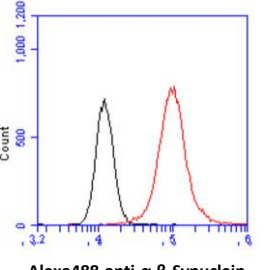
alpha-Synuclein

• Monoclonal Antibodies

Product name	Clone No.	Applications	Isotype	Host	Cat No.
alpha-Synuclein	5C2	ELISA, WB, ICC/IF	IgG _{1,k}	M	ANC0603
alpha-Synuclein	AT1E10	ELISA, WB, ICC/IF	IgG _{1,k}	M	ATGA0244
alpha, beta-Synuclein	3B6	ELISA, WB, ICC/IF, FACS	IgG _{1,k}	M	ASC0632
gamma-Synuclein	-	ELISA, WB	-	M	PGS0606

H : Human M : Mouse

Alpha-Synuclein antibody (AT1E10) (Cat No. ATGA0244)	Alpha-Synuclein protein (Cat No. SNA2001)
	
ICC/IF analysis ICC/IF analysis of alpha-synuclein in LnCap cells. The cell was stained with human alpha-Synuclein antibody (1:100). The secondary antibody (green) was used Alexa Fluor 488. DAPI was stained the cell nucleus (blue).	SDS-PAGE 3µg by SDS-PAGE under reducing condition and visualized by coomassie blue stain.

alpha-Synuclein antibody (5C2) (Cat No. ANC0603)	alpha, beta-Synuclein antibody (3B6) (Cat No. ASC0632)
	
ICC/IF analysis ICC/IF analysis of alpha-Synuclein in HeLa cells. The cell was stained with human alpha-Synuclein antibody (1:100). The secondary antibody (green) was used Alexa Fluor 488. DAPI was stained the cell nucleus (blue).	Flow cytometry Flow cytometry analysis of alpha, beta-Synuclein in C6 cell line, staining at 2-5µg for 1x10 ⁶ cells (red line). The secondary antibody used goat anti-mouse IgG Alexa fluor 488 conjugate. Isotype control antibody was mouse IgG (black line).