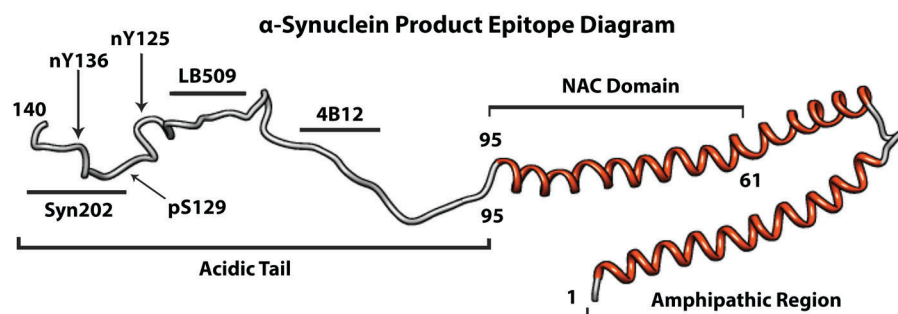


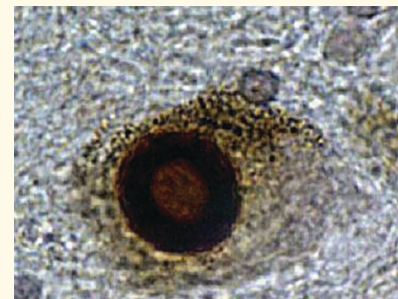
# α-Synuclein

## Antibodies and ELISAs

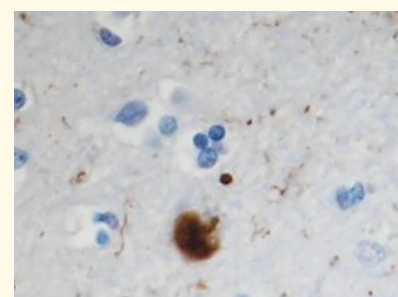
α-Synuclein is a small 140 amino acid, pre-synaptic protein whose normal physiological function remains unclear, despite evidence suggesting roles in membrane trafficking and integration of synaptic signaling processes. It is a member of a family of proteins including the β- and γ-Synuclein. The expression of α-Synuclein is particularly enriched in neural tissues, especially the neocortex, hippocampus, striatum, thalamus and cerebrum. Dysfunctional regulation of α-Synuclein is tightly associated with several neurodegenerative disorders. Misfolding, aggregation and fibrillation of α-Synuclein are associated with the pathogenesis of Parkinson's disease, and mutations in the gene are the basis of familial forms of Parkinson's. α-Synuclein peptides can also be found as components of amyloid plaques in Alzheimer's disease, as well as in glial cytoplasmic inclusions in Multiple System Atrophy. Post-translational modifications, such as phosphorylation, nitration, and oxidation have been demonstrated to modify the aggregation and fibrillation rates, and this is believed to be an important factor in disease pathogenesis. Levels of α-Synuclein in cerebrospinal fluid (CSF) or plasma is currently being investigated as a potentially useful biomarker for disease diagnosis or prognosis.



PDB ID: 1xq8 graphics were designed with the UCSF Chimera package.  
Ulmer T.S., et. al J. Biol Chem 2005 280(10):9595-603. Pettersen E.F., et. al J. Comput Chem. 2004 Oct; 25(13):1605-12.



Staining of Lewy Body of substantia nigra neuron stained with 4D6 antibody (SIG-39720). Clone 4D6 reacts with human, mouse, and rat α-Synuclein. It does not react with β-Synuclein or γ-Synuclein.



Staining of intracytoplasmic Lewy Bodies in human brain tissue with P-syn/81A antibody (MMS-5091). Clone P-syn/81A reacts with human, mouse and rat α-Synuclein phosphorylated at S129.

### Anti α-Synuclein Monoclonal Antibodies

Clone	Epitope	Modification	Reactivity	Format	Application(s)	Catalog Number
4B12	103-108	None	Hu	Purified	WB, IHC, DB	SIG-39730
LB509	115-122	None	Hu	Purified	WB, IHC, DB	SIG-39725
P-syn/81A	S129	Phosphorylation	Hu, Ms, Rat	Purified	IHC	MMS-5091
Syn12	Y125 or Y136	Nitration	Hu	Ascites	WB	MMS-555R
Syn202	130-140	None	Hu, Ms, Rat, Zb	Ascites	WB, IHC, ELISA	MMS-529R
Syn204	1-130	None	Hu	Ascites	WB, IHC, IP	MMS-530R
Syn303	Unknown	Nitration/Oxidation	Hu, Ms, Rat	Purified	WB, IHC	MMS-5085
Syn514	Unknown	Nitration/Oxidation	Hu	Ascites	WB, IHC	MMS-556R
4D6	Unknown	None	Hu, Ms, Rat	Purified	WB, IHC, ELISA	SIG-39720

Hu = human

Ms = mouse

Zb = zebrafish



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07-0093-00i

# $\alpha$ -Synuclein ELISA Kit

For the latest product updates and product information, visit: [antibody.biolegend.com](https://antibody.biolegend.com)

## Our Human $\alpha$ -Synuclein ELISA features:

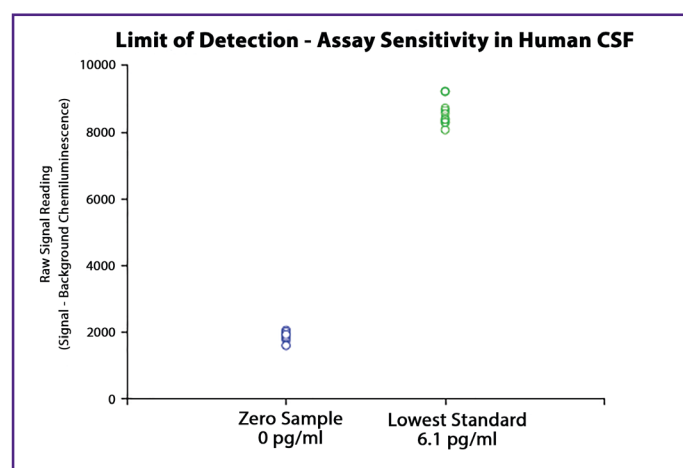
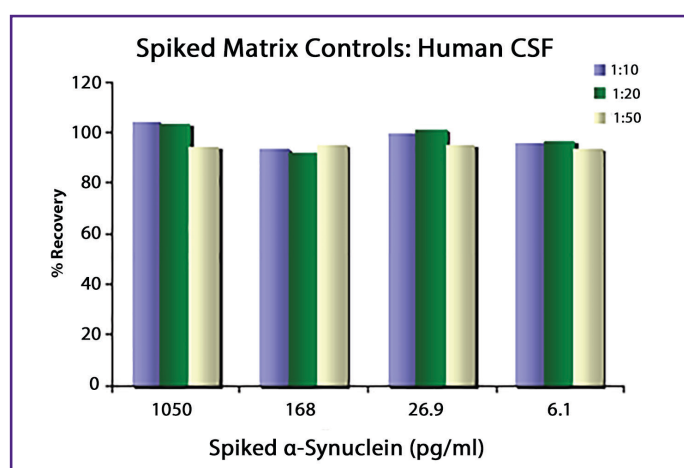
- Chemiluminescent detection.
- Ultra sensitivity, as low as 6 pg/mL.
- Highly reproducible results.
- Compatibility with CSF, plasma, serum, saliva, whole blood, and cell lysate samples.

## Quantitative ELISAs

Specificity	Reactivity	Catalog Number
$\alpha$ -Synuclein	Hu	SIG-38974

Hu = human

## A Fit-for-Purpose $\alpha$ -Synuclein Assay for Clinical Cohorts



## Minimum Required Dilution (MRD) and Dilutional Linearity

Matrix	Dilution	Calculated Conc. Adjusted for Dilution	Std Dev	% CV	% Recovery to MRD
CSF pg/mL	1:10	1826.5	24.2	1.3	MRD
	1:20	1794.3	26.1	1.5	98.2
	1:50	1707.2	203.8	11.9	93.5
Saliva ng/mL	1:25	28	0.07	.3	MRD
	1:50	27.5	0.58	2.1	98.1
	1:100	28.6	0.06	.2	101.9
Whole Blood $\mu$ g/mL	1:200,000	132	12.4	9.4	MRD
	1:400,000	134.7	9.5	7	102
	1:800,000	140.2	2.2	1.5	106.2



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