

Human Alpha-synuclein ELISA Kit ab260052

敲除验证
重组
SimpleStep ELISA

★★★★★
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概述

产品名称 人Alpha-synuclein ELISA试剂盒

检测方法 Colorimetric

精确度 批次内

样品	n	Mean	SD	CV%
Serum	8			2.5%

批次间

样品	n	Mean	SD	CV%
Serum	3			8.9%

样品类型 Serum, Cell Lysate, Cell culture media, Hep Plasma, EDTA Plasma, Cit plasma, Tissue Lysate

检测类型 Sandwich (quantitative)

灵敏度 504 pg/ml

范围 615 pg/ml - 7000 pg/ml

回收率 特定样本回收率

样品类型	平均%	范围
Serum	117	116% - 118%
Cell culture media	103	90% - 114%
Hep Plasma	106	93% - 115%
EDTA Plasma	118	105% - 129%
Cit plasma	113	113% - 113%

检测时间 1h 30m

实验步骤

种属反应性

产品概述

One step assay

与反应: Human

Human Alpha-synuclein ELISA Kit (ab260052) is a single-wash 90 min sandwich ELISA designed for the quantitative measurement of Alpha-synuclein protein in cell culture media, cell lysate, cit plasma, edta plasma, hep plasma, and serum. It uses our proprietary SimpleStep ELISA® technology. Quantitate Human Alpha-synuclein with 504 pg/ml sensitivity.

SimpleStep ELISA® technology employs capture antibodies conjugated to an affinity tag that is recognized by the monoclonal antibody used to coat our SimpleStep ELISA® plates. This approach to sandwich ELISA allows the formation of the antibody-analyte sandwich complex in a single step, significantly reducing assay time. See the SimpleStep ELISA® protocol summary in the image section for further details. Our SimpleStep ELISA® technology provides several benefits:

- Single-wash protocol reduces assay time to 90 minutes or less
- High sensitivity, specificity and reproducibility from superior antibodies
- Fully validated in biological samples
- 96-wells plate breakable into 12 x 8 wells strips

A 384-well SimpleStep ELISA® microplate (**ab203359**) is available to use as an alternative to the 96-well microplate provided with SimpleStep ELISA® kits.

ASSAY SPECIFICITY

This kit recognizes both native and recombinant human Alpha-synuclein protein in serum, plasma, and cell culture supernatant, cell and tissue extract samples only.

Urine, saliva, and cerebrospinal fluid samples have not been tested with this kit.

CROSS REACTIVITY

Recombinant Tau 441, UCHL-1, beta-tubulin, and Gamma-synuclein were prepared at 7,000 pg/mL and assayed for cross reactivity. No cross-reactivity was observed.

INTERFERENCE

Recombinant Tau 441, UCHL-1, and beta tubulin were prepared at 4 ng/mL and tested for interference. No interference was observed.

SPECIES REACTIVITY

This kit recognizes human Alpha-synuclein protein.

Other species reactivity was determined by measuring 50% serum samples of various species, interpolating the protein concentrations from the human standard curve, and expressing the interpolated concentrations as a percentage of the protein concentration in human serum assayed at the same dilution.

This kit was found to react with rhesus macaque serum.

Reactivity < 3% was determined for the following species:

Mouse

Rat

Cow

Other species reactivity not determined.

说明

Alpha-synuclein is a 140- amino acid protein encoded by the SNCA gene, primarily found in neural tissue. It is a member of the synuclein family of proteins, including β -Synuclein and γ -Synuclein. Alpha-synuclein has been found concentrated in the presynaptic nerve terminals of neurons and has been found in the nucleus of neurons. Alpha-synuclein is a major component of Lewy Bodies. This protein appears to play a role in dopamine metabolism and vesicle trafficking.

Abcam has not and does not intend to apply for the REACH Authorisation of customers' uses of products that contain European Authorisation list (Annex XIV) substances.

It is the responsibility of our customers to check the necessity of application of REACH Authorisation, and any other relevant authorisations, for their intended uses.

平台

Pre-coated microplate (12 x 8 well strips)

性能

存放说明

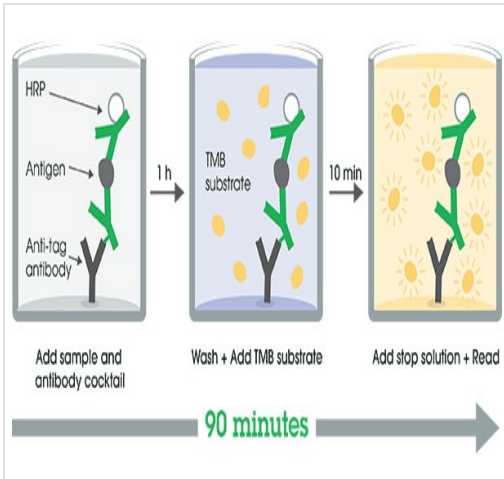
Store at +4°C. Please refer to protocols.

组件	1 x 96 tests	1 x 96 tests
10X Human Alpha-synuclein Capture Antibody	1 x 600 μ l	1 x 600 μ l
10X Human Alpha-synuclein Detector Antibody	1 x 600 μ l	1 x 600 μ l
10X Wash Buffer PT (ab206977)	1 x 20ml	1 x 20ml
5X Cell Extraction Buffer PTR (ab193970)	1 x 10ml	1 x 10ml
Antibody Diluent CPI2	1 x 6ml	1 x 6ml
Human Alpha-synuclein Lyophilized Recombinant Protein (ab51189)	2 vials	2 vials
Plate Seals	1 unit	1 unit
Sample Diluent NS (ab193972)	1 x 50ml	1 x 50ml
SimpleStep Pre-Coated 96-Well Microplate (ab206978)	1 unit	1 unit
Stop Solution	1 x 12ml	1 x 12ml

组件	1 x 96 tests	1 x 96 tests
TMB Development Solution	1 x 12ml	1 x 12ml

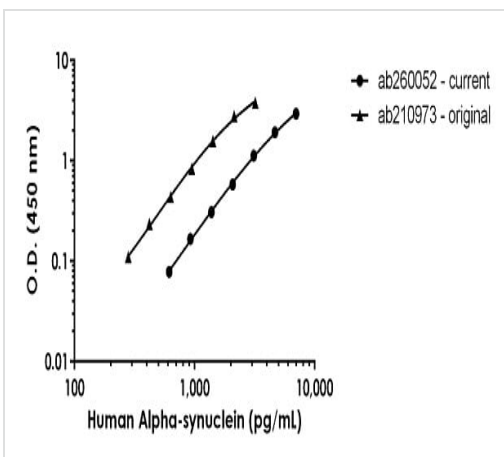
功能	May be involved in the regulation of dopamine release and transport. Induces fibrillization of microtubule-associated protein tau. Reduces neuronal responsiveness to various apoptotic stimuli, leading to a decreased caspase-3 activation.
组织特异性	Expressed principally in brain but is also expressed in low concentrations in all tissues examined except in liver. Concentrated in presynaptic nerve terminals.
疾病相关	Genetic alterations of SNCA resulting in aberrant polymerization into fibrils, are associated with several neurodegenerative diseases (synucleinopathies). SNCA fibrillar aggregates represent the major non A-beta component of Alzheimer disease amyloid plaque, and a major component of Lewy body inclusions. They are also found within Lewy body (LB)-like intraneuronal inclusions, glial inclusions and axonal spheroids in neurodegeneration with brain iron accumulation type 1. Parkinson disease 1 Parkinson disease 4 Dementia Lewy body
序列相似性	Belongs to the synuclein family.
结构域	The 'non A-beta component of Alzheimer disease amyloid plaque' domain (NAC domain) is involved in fibrils formation. The middle hydrophobic region forms the core of the filaments. The C-terminus may regulate aggregation and determine the diameter of the filaments.
翻译后修饰	Phosphorylated, predominantly on serine residues. Phosphorylation by CK1 appears to occur on residues distinct from the residue phosphorylated by other kinases. Phosphorylation of Ser-129 is selective and extensive in synucleinopathy lesions. In vitro, phosphorylation at Ser-129 promoted insoluble fibril formation. Phosphorylated on Tyr-125 by a PTK2B-dependent pathway upon osmotic stress. Hallmark lesions of neurodegenerative synucleinopathies contain alpha-synuclein that is modified by nitration of tyrosine residues and possibly by dityrosine cross-linking to generated stable oligomers. Ubiquitinated. The predominant conjugate is the diubiquitinated form. Acetylation at Met-1 seems to be important for proper folding and native oligomeric structure.
细胞定位	Cytoplasm, cytosol. Membrane. Nucleus. Cell junction, synapse. Secreted. Membrane-bound in dopaminergic neurons.

图片



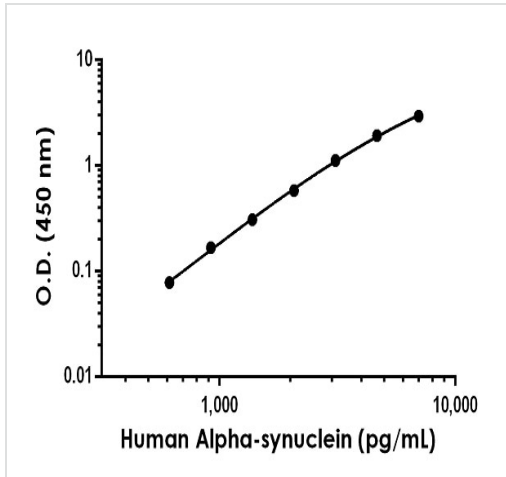
SimpleStep ELISA Protocol Diagram

SimpleStep ELISA technology allows the formation of the antibody-antigen complex in one single step, reducing assay time to 90 minutes. Add samples or standards and antibody mix to wells all at once, incubate, wash, and add your final substrate. See protocol for a detailed step-by-step guide.



Human Alpha Synuclein rabmab remake comparison

Standard Curve comparison between the original Human Alpha-synuclein SimpleStep ELISA kit ([ab210973](#)) and current Human Alpha-synuclein SimpleStep ELISA kit ([ab260052](#)).



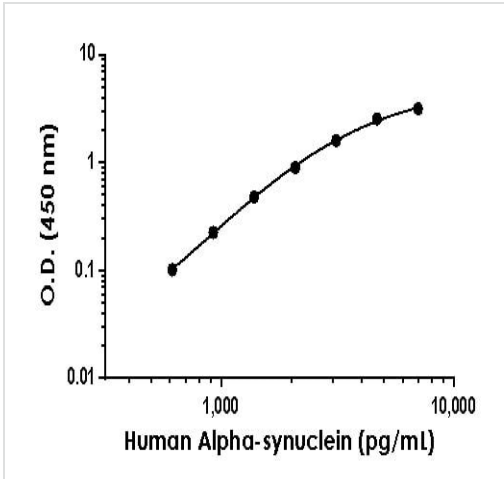
Example of human Alpha-synuclein standard curve in Sample Diluent NS.

The Alpha-synuclein standard curve was prepared as described in Section 10. Raw data values are shown in the table. Background-subtracted data values (mean +/- SD) are graphed.

Standard Curve Measurements			
Concentration (pg/mL)	O.D 450 nm		Mean O.D
	1	2	
0	0.079	0.079	0.079
615	0.161	0.154	0.157
922	0.247	0.244	0.245
1,383	0.392	0.383	0.387
2,074	0.646	0.670	0.658
3,111	1.181	1.221	1.201
4,667	2.081	1.921	2.001
7,000	3.136	2.913	3.025

Example of human Alpha-synuclein standard curve in Sample Diluent NS.

The Alpha-synuclein standard curve was prepared as described. Raw data values are shown in the table. Background-subtracted data values (mean +/- SD) are graphed.



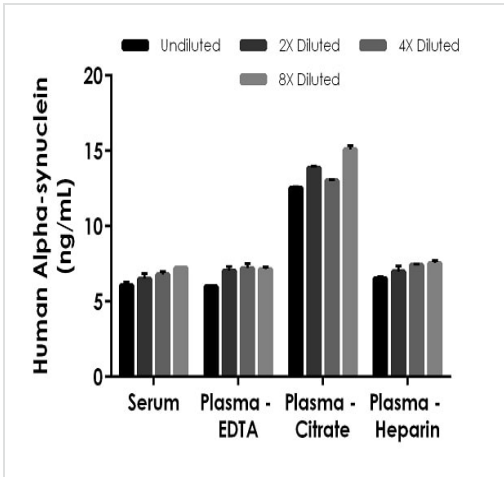
Example of human Alpha-synuclein standard curve in 1X Cell Extraction Buffer PTR.

The Alpha-synuclein standard curve was prepared as described. Raw data values are shown in the table. Background-subtracted data values (mean +/- SD) are graphed

Standard Curve Measurements			
Concentration (pg/mL)	O.D 450 nm		Mean O.D
	1	2	
0	0.057	0.059	0.058
615	0.162	0.158	0.160
922	0.282	0.285	0.284
1,383	0.531	0.544	0.537
2,074	0.943	0.985	0.964
3,111	1.687	1.653	1.670
4,667	2.550	2.663	2.607
7,000	3.192	3.261	3.226

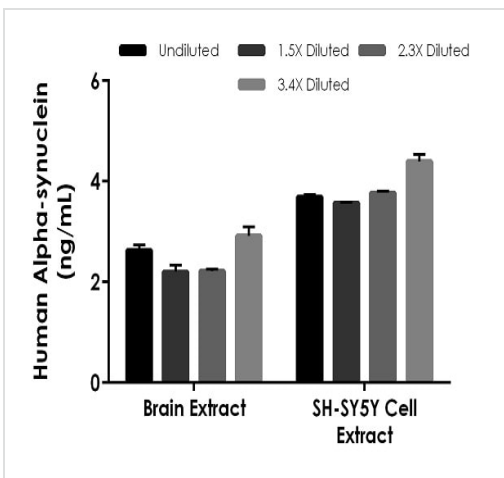
Example of human Alpha-synuclein standard curve in 1X Cell Extraction Buffer PTR.

The Alpha-synuclein standard curve was prepared as described. Raw data values are shown in the table. Background-subtracted data values (mean +/- SD) are graphed.



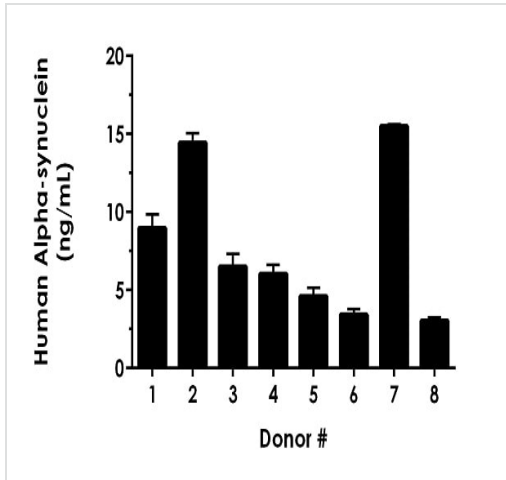
Interpolated concentrations of native Alpha-synuclein in human serum and plasmas samples.

The concentrations of Alpha-synuclein were measured in duplicates, interpolated from the Alpha-synuclein standard curves and corrected for sample dilution. Undiluted samples are as follows: serum 100%, plasma (EDTA) 100%, plasma (citrate) 50% and plasma (heparin) 100%. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean Alpha-synuclein concentration was determined to be 6.6 ng/mL in serum, 6.8 ng/mL in plasma (EDTA), 13.6 ng/mL in plasma (citrate), and 7.1 ng/mL in plasma (heparin).



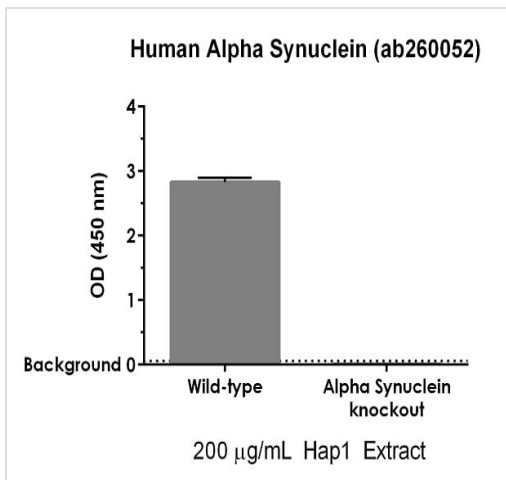
Interpolated concentrations of native Alpha-synuclein in human brain and SH-SY5Y cell extract based on a 3 µg/mL and 500 µg/mL extract load, respectively.

The concentrations of Alpha-synuclein were measured in duplicate and interpolated from the Alpha-synuclein standard curve and corrected for sample dilution. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2).



Serum from eight individual healthy human female donors was measured in duplicate.

Interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean Alpha-synuclein concentration was determined to be 7.8 ng/mL with a range of 3.0 – 8.9 ng/mL.



ab260052 specifically detects Alpha Synuclein in human HAP1 cells.

Raw data is plotted for wild-type and alpha synuclein-knockout HAP1 cell extracts tested at 111 µg/mL.

Sample Diluent Buffer	n=	Minimal Detectable Dose
Sample Diluent NS	16	504 pg/mL
1X Cell Extraction Buffer PTR	16	302 pg/mL

Assay sensitivity.

The MDD was determined by calculating the mean of zero standard replicates and adding 2 standard deviations then extrapolating the corresponding concentration.

Dilution Factor	Interpolated value	100% Human Serum	100% Human Plasma (EDTA)	50% Human Plasma (Citrate)	100% Human Plasma (Heparin)
Undiluted	pg/mL	6,075	5,993	6,272	6,541
	% Expected value	100	100	100	100
1.5	pg/mL	3,252	3,524	3,469	3,497
	% Expected value	107	118	111	107
2.3	pg/mL	1,699	1,804	1,629	1,858
	% Expected value	112	120	104	114
3.4	pg/mL	930	893	932	942
	% Expected value	119	119	120	115

Linearity of dilution.

Linearity of dilution is determined based on interpolated values from the standard curve. Linearity of dilution defines a sample concentration interval in which interpolated target concentrations are directly proportional to sample dilution.

Native Alpha-synuclein was measured in the following biological samples in a 1.5-fold dilution series. Sample dilutions are made in Sample Diluent NS.

Dilution Factor	Interpolated value	3.0 µg/mL Human Brain Extract	500 µg/mL Human SH-SY5Y cell Extract	50% RPMI 10% FBS
Undiluted	pg/mL	2,633	3,691	3,134
	% Expected value	100	100	100
1.5	pg/mL	1,469	2,381	2,224
	% Expected value	83	97	106
2.3	pg/mL	1,008	1,714	1,509
	% Expected value	84	102	106
3.4	pg/mL	884	1,332	1,002
	% Expected value	111	119	105

Linearity of dilution.

Linearity of dilution is determined based on interpolated values from the standard curve. Linearity of dilution defines a sample concentration interval in which interpolated target concentrations are directly proportional to sample dilution.

Native Alpha-synuclein was measured in the following biological samples in a 1.5-fold dilution series. Sample dilutions are made in Sample Diluent 1X Cell Extraction Buffer PTR.

Recombinant Alpha-synuclein protein was spiked into RPMI media containing 10% FBS in a 1.5 -fold dilution series. Serial dilutions are made in Sample Diluent NS.

Powered by recombinant antibodies



Research with confidence
Consistent and reproducible results



Long-term and scalable supply
Recombinant technology



Success from the first experiment
Confirmed specificity



Ethical standards compliant
Animal-free production

Sandwich ELISA - Human Alpha-synuclein ELISA Kit (ab260052)

To learn more about the advantages of recombinant antibodies see [here](#).

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