abcam

Product datasheet

Human Neuron specific Enolase ELISA Kit ab217778

Recombinant SimpleStep ELISA®

2 References 10 Images

Overview

Product name Human Neuron specific Enolase ELISA Kit

Detection method Colorimetric

Precision

Intra-assay

Sample	n	Mean	SD	CV%
Overall	5			4.3%

Inter-assay

Sample	n	Mean	SD	CV%
Overall	3			11.4%

Sample type Cell culture supernatant, Serum, Cell culture extracts, Tissue Extracts, Hep Plasma, EDTA Plasma, Cit plasma

Assay type Sandwich (quantitative)

Sensitivity 23 pg/ml

Range 312.5 pg/ml - 20000 pg/ml

Recovery

Sample specific recovery

Sample type	Average %	Range
Serum	106	103% - 108%
Cell culture extracts	90	89% - 91%
Tissue Extracts	110	106% - 113%
Cell culture media	103	102% - 105%
Hep Plasma	109	104% - 114%

Sample type	Average %	Range
EDTA Plasma	105	96% - 118%
Cit plasma	102	100% - 105%

Assay time 1h 30m

Assay duration One step assay

Species reactivity **Reacts with:** Human

Product overview Human Neuron specific Enolase ELISA Kit (ab217778) is a single-wash 90 min sandwich ELISA designed for the quantitative measurement of Neuron specific Enolase protein in cell culture extracts, cell culture supernatant, cit plasma, edta plasma, hep plasma, serum, and tissue extracts. It uses our proprietary SimpleStep ELISA® technology. Quantitate Human Neuron specific Enolase with 23 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.

Notes Neuron-specific Enolase (also known as NSE, gamma-enolase and Enolase 2) is a cytoplasmic phosphopyruvate hydratase. Neuron-specific Enolase has two related family members, Enolase 1 and Enolase 3. Neuron-specific Enolase can be used to identify neuronal cells and normal or malignant cells with neuroendocrine origin.

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.

Platform Pre-coated microplate (12 x 8 well strips)

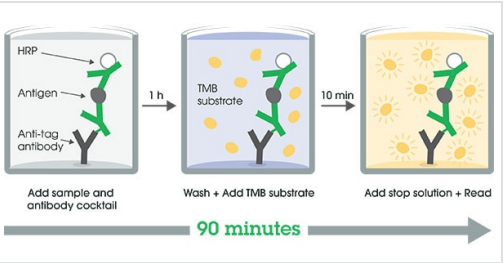
Properties

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

Components	1 x 96 tests
10X Human Neuron-specific Enolase Capture Antibody	1 x 600µl
10X Human Neuron-specific Enolase Detector Antibody	1 x 600µl
10X Wash Buffer PT (ab206977)	1 x 20ml
50X Cell Extraction Enhancer Solution (ab193971)	1 x 1ml
5X Cell Extraction Buffer PTR (ab193970)	1 x 10ml
Antibody Diluent CPI - HAMA Blocker (ab193969)	1 x 6ml
Human Neuron-specific Enolase Lyophilized Recombinant Protein	2 vials
Plate Seals	1 unit
Sample Diluent NS (ab193972)	1 x 50ml
SimpleStep Pre-Coated 96-Well Microplate (ab206978)	1 unit
Stop Solution	1 x 12ml
TMB Development Solution	1 x 12ml

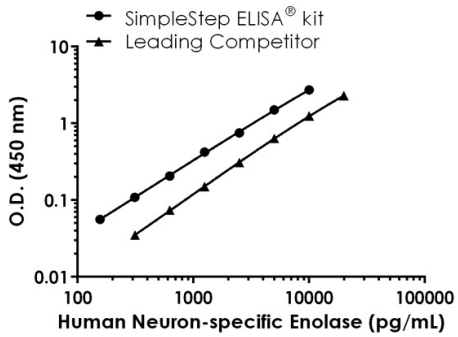
Function	Has neurotrophic and neuroprotective properties on a broad spectrum of central nervous system (CNS) neurons. Binds, in a calcium-dependent manner, to cultured neocortical neurons and promotes cell survival.
Tissue specificity	The alpha/alpha homodimer is expressed in embryo and in most adult tissues. The alpha/beta heterodimer and the beta/beta homodimer are found in striated muscle, and the alpha/gamma heterodimer and the gamma/gamma homodimer in neurons.
Pathway	Carbohydrate degradation; glycolysis; pyruvate from D-glyceraldehyde 3-phosphate: step 4/5.
Sequence similarities	Belongs to the enolase family.
Developmental stage	During ontogenesis, there is a transition from the alpha/alpha homodimer to the alpha/beta heterodimer in striated muscle cells, and to the alpha/gamma heterodimer in nerve cells.
Cellular localization	Cytoplasm. Cell membrane. Can translocate to the plasma membrane in either the homodimeric (alpha/alpha) or heterodimeric (alpha/gamma) form.

Images



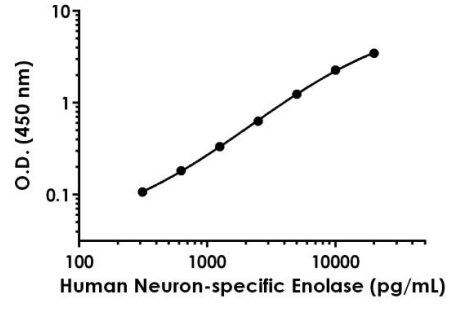
SimpleStep ELISA technology allows the formation of the antibody-antigen complex in one single step, reducing assay time to 90 minutes. Add samples or standards and antibody mix to wells all at once, incubate, wash, and add your final substrate. See protocol for a detailed step-by-step guide.

Other - Human Neuron specific Enolase ELISA Kit (ab217778)



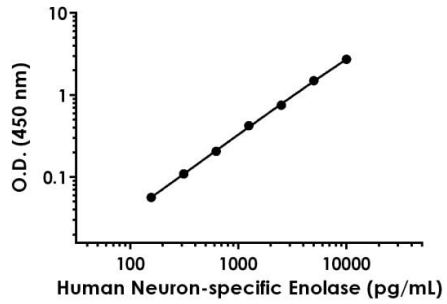
Standard curve comparison between human Neuron specific Enolase SimpleStep ELISA® kit and traditional ELISA kit from leading competitor. SimpleStep ELISA kit shows comparable sensitivity.

Human Neuron specific Enolase standard curve comparison data



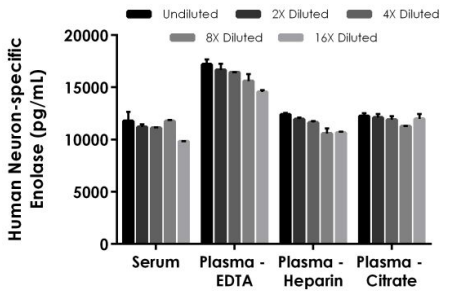
Background-subtracted data values (mean +/- SD) are graphed.

Example of human Neuron-specific Enolase standard curve in Sample Diluent NS.



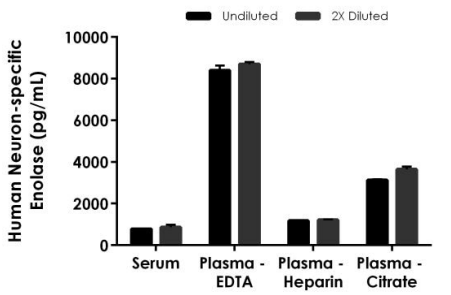
Example of human Neuron-specific Enolase standard curve in 1X Cell Extraction Buffer PTR.

Background-subtracted data values (mean +/- SD) are graphed.



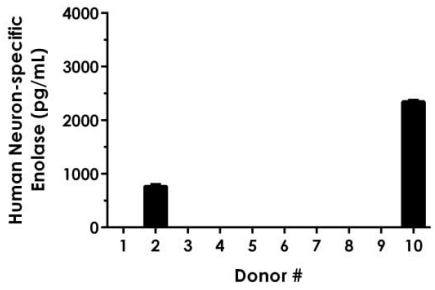
Interpolated concentrations of spike Neuron-specific Enolase in human serum, and plasma samples.

The concentrations of Neuron-specific Enolase were measured in duplicates, interpolated from the Neuron-specific Enolase standard curves and corrected for sample dilution. Undiluted samples are as follows: serum 25%, plasma (EDTA) 25%, plasma (heparin) 25%, and plasma (citrate) 25%. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2).



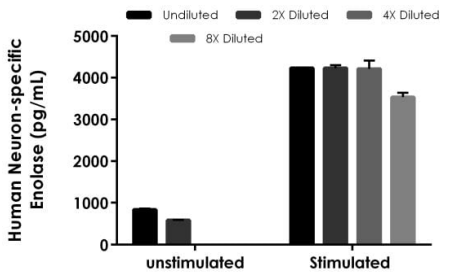
Interpolated concentrations of native Neuron-specific Enolase in human serum, and plasma samples.

The concentrations of Neuron-specific Enolase were measured in duplicates, interpolated from the Neuron-specific Enolase standard curves and corrected for sample dilution. Undiluted samples are as follows: serum 25%, plasma (EDTA) 25%, plasma (heparin) 25%, and plasma (citrate) 25%. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean Neuron-specific Enolase concentration was determined to be 821 pg/mL in serum, 8545 pg/mL in plasma (EDTA), 1194 pg/mL in plasma (heparin), and 3386 pg/mL in plasma (citrate).



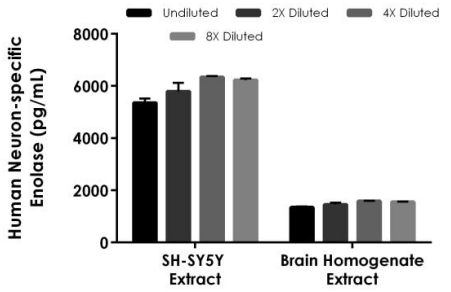
Serum from ten individual healthy human female donors was measured in duplicate.

Interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). Eight out of ten donors tested below the detectable dose. The mean Neuron-specific Enolase concentration of two donors was determined to be 1553 pg/mL with a range of 766 – 2340 pg/mL.



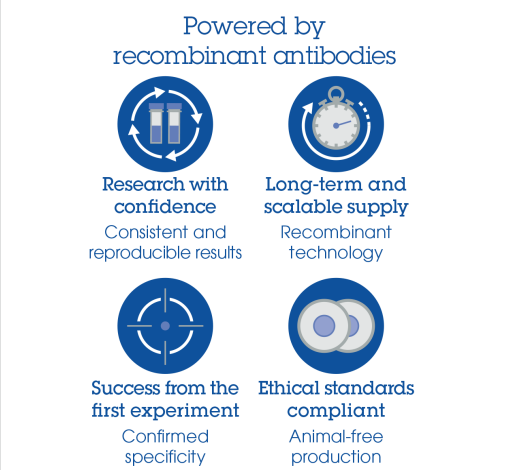
Interpolated concentrations of native Neuron-specific Enolase in human peripheral blood mononuclear (PBMC) cell culture supernatant samples.

PBMCs were grown in the absence (unstimulated) or presence (stimulated) of phytohemagllutinin (PHA) for 3 days. The concentrations of Neuron-specific Enolase were measured in duplicates, interpolated from the Neuron-specific Enolase standard curves and corrected for sample dilution. Undiluted samples are as follows: unstimulated 50%, and stimulated 50%. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean Neuron-specific Enolase concentration was determined to be undetectable in media, 711 pg/mL in unstimulated, and 4051 pg/mL in stimulated.



Interpolated concentrations of native Neuron-specific Enolase in human SH-SY5Y cell extract and human brain homogenate tissue extract samples based on a 50 µg/mL and 100 µg/mL extract load.

The concentrations of Neuron-specific Enolase were measured in duplicate and interpolated from the Neuron-specific Enolase standard curve and corrected for sample dilution. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean Neuron-specific Enolase concentration was determined to be 5828 pg/mL in SH-SY5Y cell extract and 1482 pg/mL in human brain homogenate tissue extract.



Sandwich ELISA - Human Neuron specific Enolase ELISA Kit (ab217778)

To learn more about the advantages of recombinant antibodies see here.

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