

## Product datasheet

# Human Calbindin ELISA Kit ab218270

Recombinant **SimpleStep ELISA**

[7 Images](#)

### Overview

**Product name** Human Calbindin ELISA Kit

**Detection method** Colorimetric

**Precision**

Intra-assay

Sample	n	Mean	SD	CV%
Pooled urine	8			4.9%

Inter-assay

Sample	n	Mean	SD	CV%
Pooled urine	3			9.6%

**Sample type** Urine, Tissue Extracts

**Assay type** Sandwich (quantitative)

**Sensitivity** 3.7 pg/ml

**Range** 9.4 pg/ml - 600 pg/ml

**Recovery**

Sample specific recovery

Sample type	Average %	Range
Urine	115	114% - 117%
Tissue Extracts	101	99% - 105%

**Assay time** 1h 30m

**Assay duration** One step assay

**Species reactivity** **Reacts with:** Human

**Product overview**

Human Calbindin ELISA Kit (ab218270) is a single-wash 90 min sandwich ELISA designed for the quantitative measurement of Calbindin protein in tissue extracts and urine. It uses our proprietary SimpleStep ELISA® technology. Quantitate Human Calbindin with 3.7 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

Calbindin is a 260 amino acid protein encoded by the gene CALB1. Also, referred to as Calbindin D28, D-28K, and Vitamin D-dependent calcium-binding protein, CALB1 belongs to a family of calcium binding proteins which includes parvalbumin, calmodulin, calretinin S100G, and troponin C. CALB1 contains five EF-hand domains, and four calcium binding sites, although two sites have lost binding capacity for calcium. CALB1 functions in the absorption of calcium in the kidney and intestine, and in neural tissue CALB1 is involved in neural function by modulating calcium channel activity. Expressed in the distal tubule and in the proximal part of the collecting kidney ducts, CALB1 is thought to be a kidney injury marker.

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 Calbindin Capture Antibody	1 x 600µl
10X Wash Buffer PT (ab206977)	1 x 20ml
20X Human Calbindin Detector Antibody	1 x 300µl
50X Cell Extraction Enhancer Solution (ab193971)	1 x 1ml
5X Cell Extraction Buffer PTR (ab193970)	1 x 10ml
Antibody Diluent 5BC	1 x 6ml

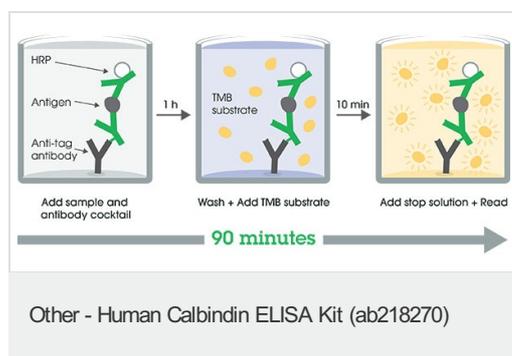
Components	1 x 96 tests
Human Calbindin Lyophilized Recombinant Protein	2 vials
Plate Seals	1 unit
Sample Diluent NS (ab193972)	1 x 50ml
SimpleStep Pre-Coated 96-Well Microplate (ab206978)	1 unit
Stop Solution	1 x 12ml
TMB Development Solution	1 x 12ml

**Function** Buffers cytosolic calcium. May stimulate a membrane Ca(2+)-ATPase and a 3',5'-cyclic nucleotide phosphodiesterase.

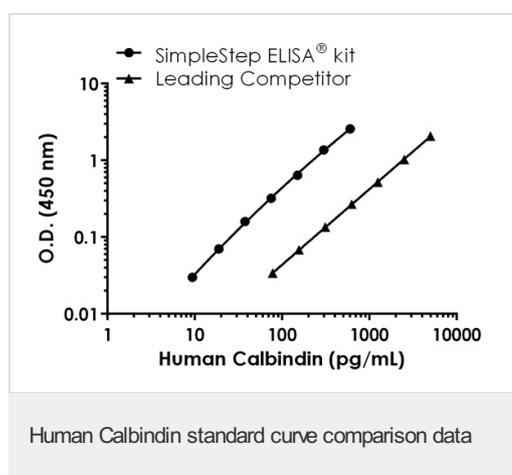
**Sequence similarities** Belongs to the calbindin family. Contains 5 EF-hand domains.

**Domain** This protein has four functional calcium-binding sites; potential sites II and VI have lost affinity for calcium.

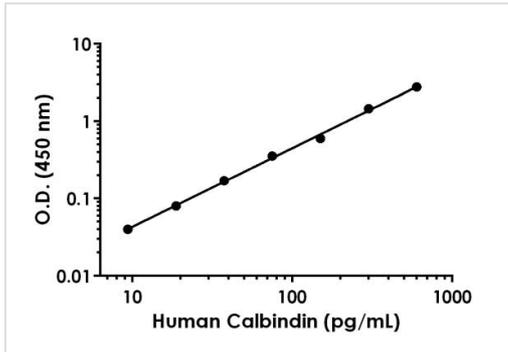
## Images



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.

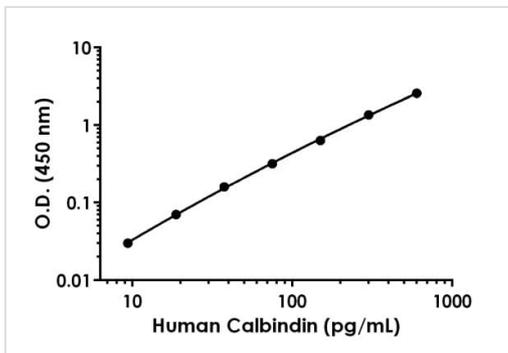


Standard curve comparison between human Calbindin SimpleStep ELISA® kit and traditional ELISA kit from leading competitor. SimpleStep ELISA kit shows a 3-fold sensitivity.



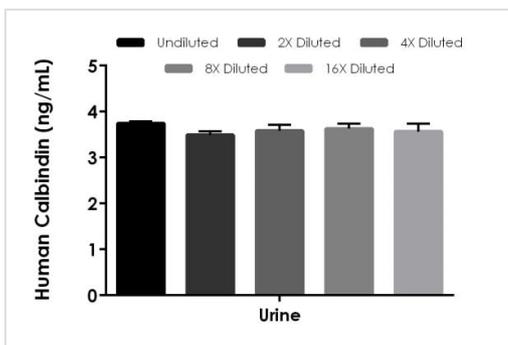
Example of human calbindin standard curve in Sample Diluent NS

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



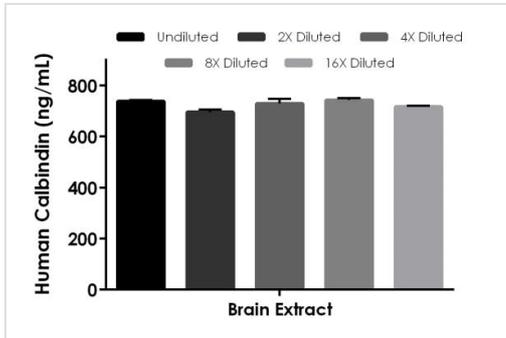
Example of human calbindin standard curve in 1X Cell Extraction Buffer PTR

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



Interpolated concentrations of native calbindin in human urine

The concentrations of calbindin were measured in duplicate, interpolated from the calbindin standard curve and corrected for sample dilution. Undiluted sample was at 10%. The interpolated dilution factor-corrected values are plotted (mean +/- SD, n=2). The mean calbindin concentration was determined to be 3.62 ng/mL in urine.



Interpolated concentrations of native calbindin in human brain tissue extract based on a 1,000 µg/mL extract load.

The concentrations of calbindin were measured in duplicate, interpolated from the calbindin standard curve, and corrected for sample dilution. The interpolated dilution factor-corrected values are plotted (mean +/- SD, n=2). The mean calbindin concentration was determined to be 733 ng/mL of human brain tissue.

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Consistent and reproducible results

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Recombinant technology

**Success from the first experiment**  
Confirmed specificity

**Ethical standards compliant**  
Animal-free production

Sandwich ELISA - Human Calbindin ELISA Kit  
(ab218270)

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

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