

Human Elastin ELISA Kit ab239433

Recombinant SimpleStep ELISA[®]

2 References 7 Images

Overview

| | | | | | |
|--------------------|---|-----------|------|-------------|------|
| Product name | Human Elastin ELISA Kit | | | | |
| Detection method | Colorimetric | | | | |
| Precision | Intra-assay | | | | |
| | Sample | n | Mean | SD | CV% |
| | protein | 8 | | | 3.9% |
| | | | | | |
| | Inter-assay | | | | |
| | Sample | n | Mean | SD | CV% |
| | protein | 3 | | | 4.4% |
| Sample type | Serum, EDTA Plasma, Cit plasma | | | | |
| Assay type | Sandwich (quantitative) | | | | |
| Sensitivity | 44 pg/ml | | | | |
| Range | 0.19 ng/ml - 12 ng/ml | | | | |
| Recovery | Sample specific recovery | | | | |
| | Sample type | Average % | | Range | |
| | Serum | 105 | | 102% - 107% | |
| | EDTA Plasma | 96 | | 93% - 99% | |
| | Cit plasma | 91 | | 90% - 91% | |
| Assay time | 1h 30m | | | | |
| Assay duration | One step assay | | | | |
| Species reactivity | Reacts with: Human | | | | |
| Product overview | Elastin <i>in vitro</i> SimpleStep ELISA® (Enzyme-Linked Immunosorbent Assay) kit is designed for the quantitative measurement of Elastin protein in humanserum and plasma samples. | | | | |

The SimpleStep ELISA® employs an affinity tag labeled capture antibody and a reporter conjugated detector antibody which immunocapture the sample analyte in solution. This entire complex (capture antibody/analyte/detector antibody) is in turn immobilized via immunoaffinity of an anti-tag antibody coating the well. To perform the assay, samples or standards are added to the wells, followed by the antibody mix. After incubation, the wells are washed to remove unbound material. TMB Development Solution is added and during incubation is catalyzed by HRP, generating blue coloration. This reaction is then stopped by addition of Stop Solution completing any color change from blue to yellow. Signal is generated proportionally to the amount of bound analyte and the intensity is measured at 450 nm. Optionally, instead of the endpoint reading, development of TMB can be recorded kinetically at 600 nm.

Elastin is a major structural protein of tissues such as aorta and nuchal ligament, which must expand rapidly and recover completely. It is a molecular determinant of the late arterial morphogenesis, stabilizing arterial structure by regulating proliferation and organization of vascular smooth muscle.

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

Properties

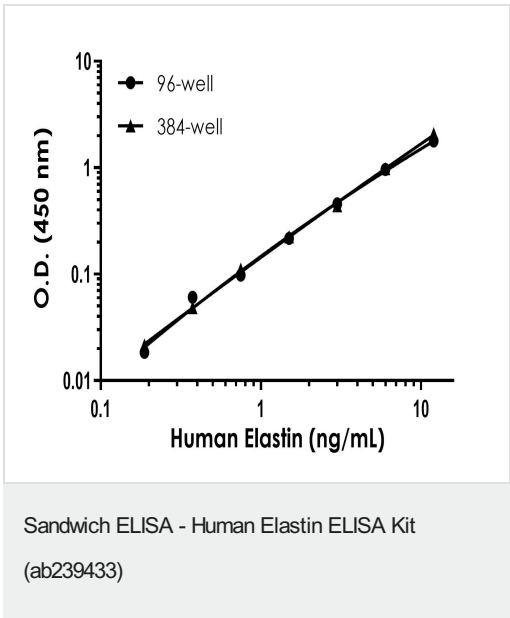
Storage instructions Store at +4°C. Please refer to protocols.

| Components | 1 x 96 tests | 1 x 384 tests |
|---|--------------|---------------|
| 10X Human Elastin Capture Antibody | 1 x 600µl | 1 x 600µl |
| 10X Human Elastin Detector Antibody | 1 x 600µl | 1 x 600µl |
| 10X Wash Buffer PT (ab206977) | 1 x 20ml | 1 x 20ml |
| 384 well CaptSure™ microplates | 0 x 0 unit | 1 unit |
| Antibody Diluent CPI2 | 1 x 6ml | 1 x 6ml |
| Human Elastin Lyophilized Recombinant Protein | 2 vials | 2 vials |
| Plate Seals | 1 unit | 1 unit |
| Sample Diluent 50BS | 1 x 20ml | 1 x 20ml |
| Sample Diluent NS (ab193972) | 1 x 12ml | 1 x 12ml |
| SimpleStep Pre-Coated 96-Well Microplate (ab206978) | 1 unit | 0 x 0 unit |
| Stop Solution | 1 x 12ml | 2 x 12ml |
| TMB Development Solution | 1 x 12ml | 2 x 12ml |

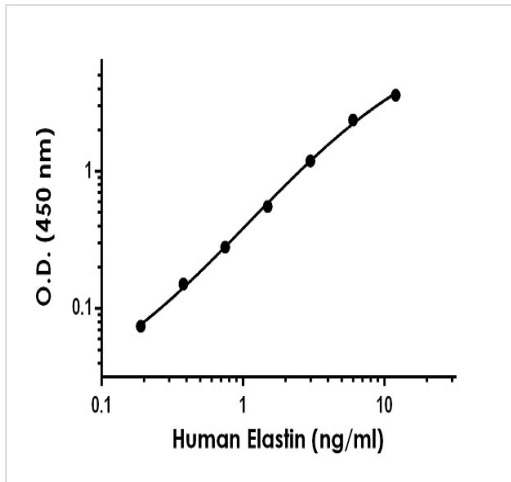
Function Major structural protein of tissues such as aorta and nuchal ligament, which must expand rapidly and recover completely. Molecular determinant of the late arterial morphogenesis, stabilizing arterial structure by regulating proliferation and organization of vascular smooth muscle.

| | |
|---|--|
| Tissue specificity | Expressed within the outer myometrial smooth muscle and throughout the arteriolar tree of uterus (at protein level). Also expressed in the large arteries, lung and skin. |
| Involvement in disease | <p>Defects in ELN are a cause of autosomal dominant cutis laxa (ADCL) [MIM:123700]. Cutis laxa is a rare connective tissue disorder characterized by loose, hyperextensible skin with decreased resilience and elasticity leading to a premature aged appearance. The skin changes are often accompanied by extracutaneous manifestations, including pulmonary emphysema, bladder diverticula, pulmonary artery stenosis and pyloric stenosis.</p> <p>Defects in ELN are the cause of supraaortic stenosis (SVAS) [MIM:185500]. SVAS is a congenital narrowing of the ascending aorta which can occur sporadically, as an autosomal dominant condition, or as one component of Williams-Beuren syndrome.</p> <p>Note=ELN is located in the Williams-Beuren syndrome (WBS) critical region. WBS results from a hemizygous deletion of several genes on chromosome 7q11.23, thought to arise as a consequence of unequal crossing over between highly homologous low-copy repeat sequences flanking the deleted region. Haploinsufficiency of ELN may be the cause of certain cardiovascular and musculo-skeletal abnormalities observed in the disease.</p> |
| Sequence similarities | Belongs to the elastin family. |
| Post-translational modifications | <p>Elastin is formed through the cross-linking of its soluble precursor tropoelastin. Cross-linking is initiated through the action of lysyl oxidase on exposed lysines to form allysine. Subsequent spontaneous condensation reactions with other allysine or unmodified lysine residues result in various bi-, tri-, and tetrafunctional cross-links. The most abundant cross-links in mature elastin fibers are lysinonorleucine, allysine aldol, desmosine, and isodesmosine.</p> <p>Hydroxylation on proline residues within the sequence motif, GXPG, is most likely 4-hydroxy as this fits the requirement for 4-hydroxylation in vertebrates.</p> |
| Cellular localization | Secreted > extracellular space > extracellular matrix. Extracellular matrix of elastic fibers. |

Images

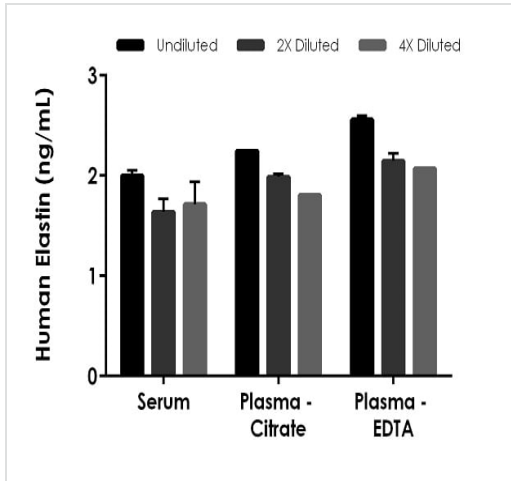


Example of human Elastin standard curve in 96-well vs. 384-well plate. Background-subtracted data values (mean +/- SD) are graphed.



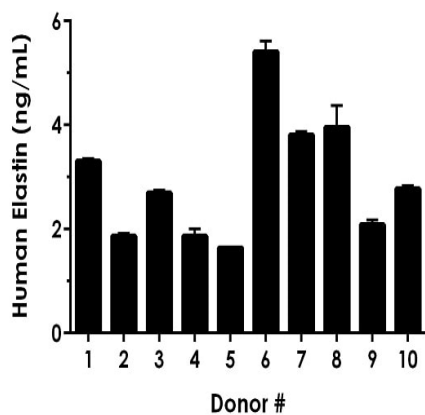
The Elastin standard curve was prepared as described in Section 10. Raw data values are shown in the table. Background-subtracted data values (mean +/- SD) are graphed.

Example of human Elastin standard curve in Sample Diluent 50BS.



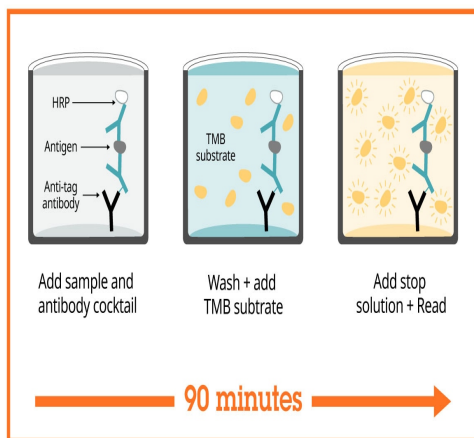
The concentrations of Elastin were measured in duplicates, interpolated from the Elastin standard curves and corrected for sample dilution. Undiluted samples are as follows: serum 50%, plasma (citrate) 50%, plasma (EDTA) 50%. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean Elastin concentration was determined to be 1.78 ng/mL in neat serum, 2.01 ng/mL in neat plasma (citrate) and 2.26 ng/mL in neat plasma (EDTA).

Interpolated concentrations of native Elastin in human serum and plasma samples.



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

Interpolated dilution factor corrected values are plotted (mean \pm SD, $n=2$). The mean Elastin concentration was determined to be 2.94 ng/mL with a range of 1.64 – 5.41 ng/mL.



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.

Sandwich ELISA - Human Elastin ELISA Kit
(ab239433)

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recombinant antibodies



Research with confidence
Consistent and reproducible results



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Recombinant technology



Success from the first experiment
Confirmed specificity



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Animal-free production

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

Sandwich ELISA - Human Elastin ELISA Kit
(ab239433)

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SimpleStep ELISA**



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protocol



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available



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High sensitivity, specificity
and reproducibility



Scalable

Now in 10-pack and
384-well formats

Sandwich ELISA - Human Elastin ELISA Kit

(ab239433)

To learn more about the advantages of SimpleStep ELISA® kits
see [here](#).

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