

Product datasheet

Human Gelsolin ELISA Kit ab270215

Recombinant SimpleStep ELISA

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Overview

Product name Human Gelsolin ELISA Kit

Detection method Colorimetric

Precision

Intra-assay

Sample	n	Mean	SD	CV%
Serum	8			2.2%

Inter-assay

Sample	n	Mean	SD	CV%
Serum	3			4%

Sample type Serum, Hep Plasma, EDTA Plasma, Cit plasma

Assay type Sandwich (quantitative)

Sensitivity 145.98 pg/ml

Range 546.88 pg/ml - 35000 pg/ml

Recovery

Sample specific recovery

Sample type	Average %	Range
Serum	104	94% - 114%
Hep Plasma	90	87% - 92%
EDTA Plasma	94	92% - 97%
Cit plasma	90	81% - 94%

Assay time 1h 30m

Assay duration One step assay

Species reactivity **Reacts with:** Human

Product overview

Human Gelsolin ELISA Kit (ab270215) is a single-wash 90 min sandwich ELISA designed for the quantitative measurement of Gelsolin protein in edta plasma, serum, cit plasma, and hep plasma. It uses our proprietary SimpleStep ELISA® technology. Quantitate Human Gelsolin with 145.98 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

Gelsolin (GSN) is an 82-kD protein with six homologous subdomains, referred to as S1-S6. Each subdomain is composed of a five-stranded β -sheet, flanked by two α -helices, one positioned perpendicular with respect to the strands and one positioned parallel. The β -sheets of the three N-terminal subdomains (S1-S3) join to form an extended β -sheet, as do the β -sheets of the C-terminal subdomains (S4-S6). It is regulated by calcium and modulates actin by binding to the plus (or barbed) ends of actin filaments, preventing monomer exchange (end-blocking or capping). It can promote the assembly of monomers into filaments (nucleation) as well as sever filaments already formed. Gelsolin plays a role in ciliogenesis. Human Gelsolin shares 99%, 93%, 93%, and 96% sequence homology with monkey, mouse, rat, and bovine, respectively.

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 Gelsolin Capture Antibody	1 x 600 μ l
10X Human Gelsolin Detector Antibody	1 x 600 μ l
10X Wash Buffer PT (ab206977)	1 x 20ml
Antibody Diluent 5BI	1 x 6ml
Human Gelsolin Lyophilized Recombinant Protein	2 vials
Plate Seals	1 unit
Sample Diluent NS (ab193972)	1 x 50ml

Components	1 x 96 tests
SimpleStep Pre-Coated 96-Well Microplate (ab206978)	1 unit
Stop Solution	1 x 12ml
TMB Development Solution	1 x 12ml

Function

Calcium-regulated, actin-modulating protein that binds to the plus (or barbed) ends of actin monomers or filaments, preventing monomer exchange (end-blocking or capping). It can promote the assembly of monomers into filaments (nucleation) as well as sever filaments already formed. Plays a role in ciliogenesis.

Tissue specificity

Phagocytic cells, platelets, fibroblasts, nonmuscle cells, smooth and skeletal muscle cells.

Involvement in disease

Defects in GSN are the cause of amyloidosis type 5 (AMYL5) [MIM:105120]; also known as familial amyloidosis Finnish type. AMYL5 is a hereditary generalized amyloidosis due to gelsolin amyloid deposition. It is typically characterized by cranial neuropathy and lattice corneal dystrophy. Most patients have modest involvement of internal organs, but severe systemic disease can develop in some individuals causing peripheral polyneuropathy, amyloid cardiomyopathy, and nephrotic syndrome leading to renal failure.

Sequence similarities

Belongs to the villin/gelsolin family.
Contains 6 gelsolin-like repeats.

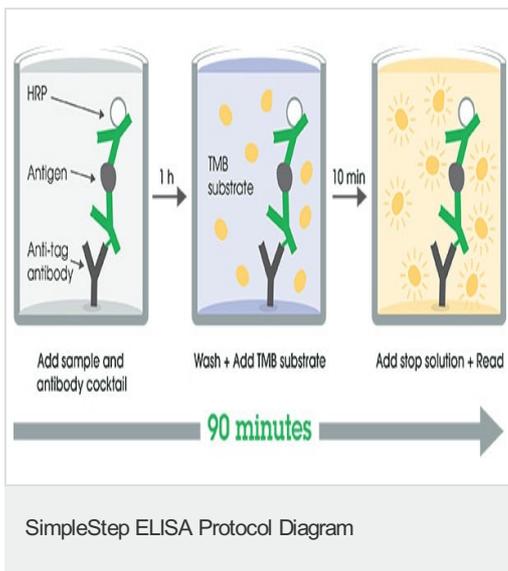
Post-translational modifications

Phosphorylation on Tyr-86, Tyr-409, Tyr-465, Tyr-603 and Tyr-651 in vitro is induced in presence of phospholipids.

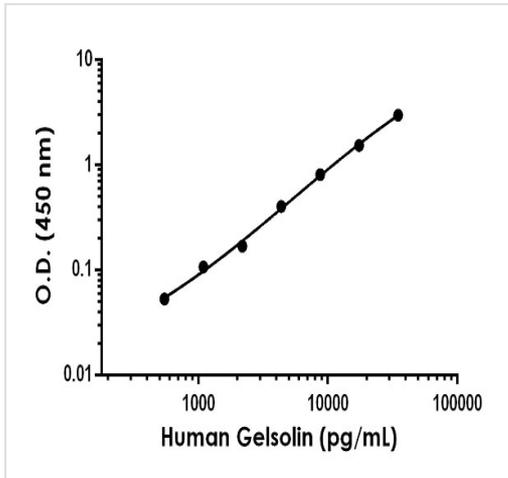
Cellular localization

Cytoplasm > cytoskeleton and Secreted.

Images

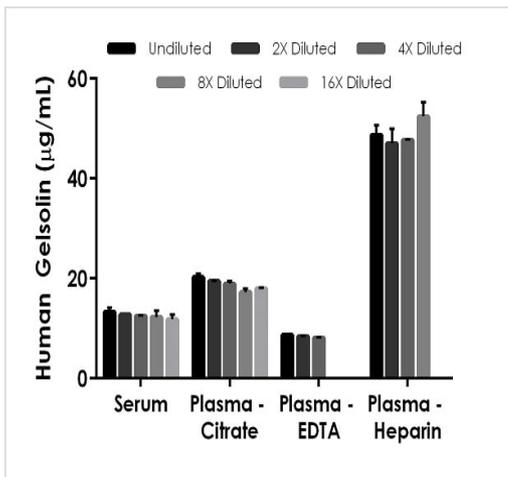


SimpleStep ELISA technology allows the formation of the antibody-antigen complex in one single step, reducing assay time to 90 minutes. Add samples or standards and antibody mix to wells all at once, incubate, wash, and add your final substrate. See protocol for a detailed step-by-step guide.



Example of human Gelsolin standard curve in Sample Diluent NS.

The Gelsolin 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.



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

The concentrations of Gelsolin were measured in duplicates, interpolated from the Gelsolin standard curves and corrected for sample dilution. Undiluted samples are as follows: serum 1:1000, plasma (citrate) 1:1000, plasma (EDTA) 1:1000, and plasma (Heparin) 1:2000. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean Gelsolin concentration was determined to be 12.54 µg/mL in serum, 18.80 µg/mL in plasma (citrate), 8.41 µg/mL in plasma (EDTA), and 48.98 µg/mL in plasma (Heparin).

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 Gelsolin ELISA Kit
(ab270215)

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

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