abcam

Product datasheet

# Human ALT ELISA Kit ab234578

リコンビナント SimpleStep ELISA

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## 製品の概要

**製品名** Human ALT ELISA Kit

**検出方法** Colorimetric

**再現性**

Intra-Assay（同時再現性）

| サンプル | N | 平均値 | SD | CV% |
|---|---|---|---|---|
| Serum | 8 | | | 4.5% |

**サンプルの種類** Serum, Cell culture media, EDTA Plasma, Cit plasma

**アッセイタイプ** Sandwich (quantitative)

**検出感度** 47.34 pg/ml

**検出範囲** 109.38 pg/ml - 7000 pg/ml

**添加回収試験**

特定サンプルでの回収試験

| サンプルの種類 | 平均 % | 測定範囲 |
|---|---|---|
| Serum | 117 | % - % |
| Cell culture media | 95 | % - % |
| EDTA Plasma | 111 | % - % |
| Cit plasma | 92 | % - % |

**全工程の試験時間** 1h 30m

**ステップ** One step assay

**種交差性** **交差種:** Human

**製品の概要** Human ALT ELISA Kit (ab234578) is a single-wash 90 min sandwich ELISA designed for the quantitative measurement of ALT protein in cell culture media, cit plasma, edta plasma, and serum. It uses our proprietary SimpleStep ELISA® technology. Quantitate Human ALT with 47.34 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 ALT protein in serum, plasma, and cell culture supernatant samples only.

Tissue extract samples have not been tested with this kit.

This kit is incompatible with plasma- heparin and cell extract samples.

**SPECIES REACTIVITY** This kit recognizes human ALT protein. Other species reactivity not determined. Please contact our Technical Support team for more information.

**特記事項**

ALT (Alanine aminotransferase 1, ALT1) is an aminotransferase that plays a key role in metabolism. It forms pyruvate through the reversible transamination of alanine and 2-oxoglutarate; this reaction is pivotal for gluconeogenesis and amino acid degradation. It is part of a key blood panel diagnostic that is indicative of liver health.

**試験プラットフォーム**

Pre-coated microplate (12 x 8 well strips)

## 製品の特性

**保存方法**

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

| 内容 | 1 x 96 tests | 1 x 384 tests |
|---|---|---|
| 10X Human ALT Capture Antibody | 1 x 600µl | 1 x 600µl |
| 10X Human ALT 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 |

| 内容 | 1 x 96 tests | 1 x 384 tests |
|---|---|---|
| 50X Cell Extraction Enhancer Solution (ab193971) | 1 x 1ml | 1 x 5ml |
| Antibody Diluent 4BI | 1 x 6ml | 1 x 6ml |
| Human ALT Lyophilized Recombinant Protein | 2 vials | 2 vials |
| Plate Seals | 1 unit | 1 unit |
| Sample Diluent NS (ab193972) | 1 x 12ml | 1 x 50ml |
| 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 |

**機能** Catalyzes the reversible transamination between alanine and 2-oxoglutarate to form pyruvate and glutamate. Participates in cellular nitrogen metabolism and also in liver gluconeogenesis starting with precursors transported from skeletal muscles.

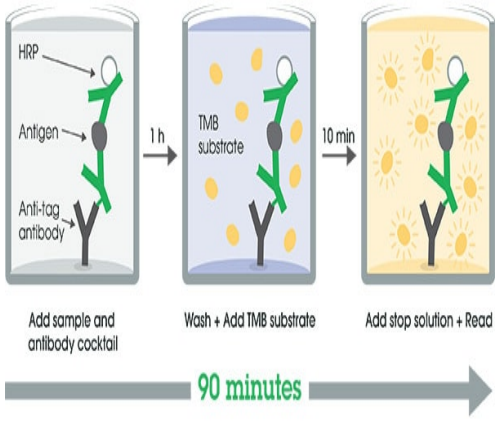
**組織特異性** Liver, kidney, heart, and skeletal muscles. Expressed at moderate levels in the adipose tissue.

**パスウェイ** Amino-acid degradation; L-alanine degradation via transaminase pathway; pyruvate from L-alanine: step 1/1.

**配列類似性** Belongs to the class-I pyridoxal-phosphate-dependent aminotransferase family. Alanine aminotransferase subfamily.

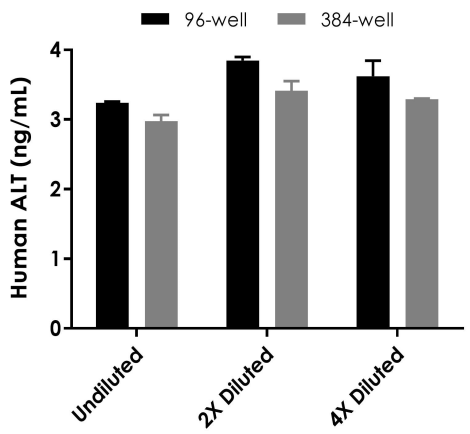
**細胞内局在** Cytoplasm.

## 画像



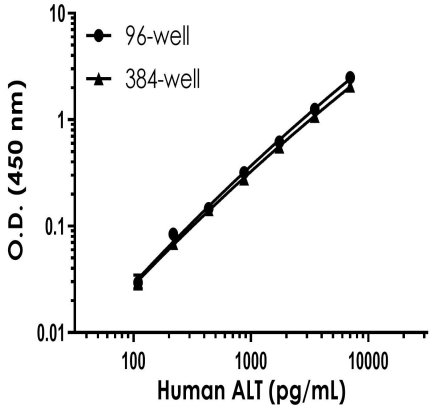

Other - Human ALT ELISA Kit (ab234578)

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.



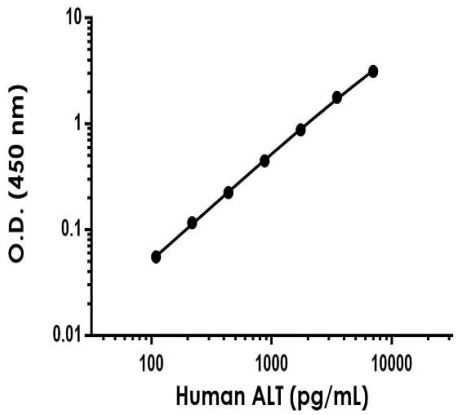

Interpolated concentrations of human ALT in serum in 96-well vs. 384-well plates.

Interpolated concentration of native ALT was measured in duplicate at different sample concentrations in 96-well vs. 384-well plates. Undiluted samples are 25% serum. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). Sample dilutions are made in Sample Diluent NS + 1X Enhancer.




Example of human ALT standard curve in Sample Diluent NS in 96-well vs. 384-well plate.

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



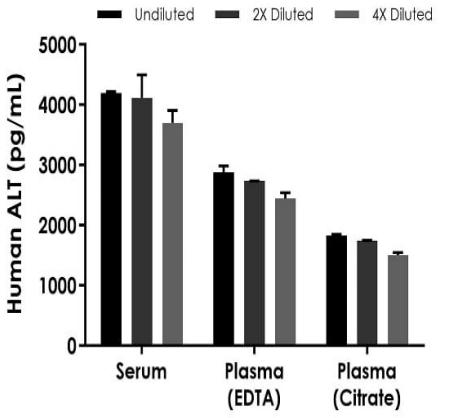

Example of human ALT standard curve in Sample Diluent NS + Enhancer.

The ALT 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 | 0.075 | 0.071 | 0.073 |
| 109.38 | 0.132 | 0.124 | 0.128 |
| 218.75 | 0.192 | 0.187 | 0.190 |
| 437.50 | 0.300 | 0.296 | 0.298 |
| 875 | 0.515 | 0.527 | 0.521 |
| 1,750 | 0.948 | 0.954 | 0.951 |
| 3,500 | 1.873 | 1.836 | 1.854 |
| 7,000 | 3.225 | 3.188 | 3.206 |

Standard curve

Example of human ALT standard curve in Sample Diluent NS + 1X Enhancer. The ALT 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 ALT in human serum, plasma (EDTA) and plasma (citrate) samples.

The concentrations of ALT were measured in duplicates, interpolated from the ALT standard curves and corrected for sample dilution. Undiluted samples are as follows: serum 25%, plasma (citrate) 25%, and plasma (EDTA) 25%. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean ALT concentration was determined to be 4,002.9 pg/mL in serum, 2,685.5 pg/mL in plasma (EDTA) and 1,886.6 pg/mL in plasma (citrate).

| Dilution Factor | Interpolated value | 25% Human Serum | 25% Human Plasma (EDTA) | 25% Human Plasma (Citrate) |
|---|---|---|---|---|
| Undiluted | pg/mL | 1,049.8 | 719.2 | 455.8 |
| | % Expected value | 100 | 100 | 100 |
| 2 | pg/mL | 514.1 | 341.8 | 217.6 |
| | % Expected value | 98 | 95 | 95 |
| 4 | pg/mL | 231.1 | 152.9 | 93.9 |
| | % Expected value | 88 | 85 | 82 |

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 ALT was measured in the following biological samples in a 2-fold dilution series. Sample dilutions are made in Sample Diluent NS + 1X Enhancer.

| Dilution Factor | Interpolated value | 50% Cell Culture Media |
|---|---|---|
| Undiluted | pg/mL | 3,250 |
| | % Expected value | 100 |
| 2 | pg/mL | 1,472 |
| | % Expected value | 91 |
| 4 | pg/mL | 785 |
| | % Expected value | 97 |
| 8 | pg/mL | 401 |
| | % Expected value | 99 |
| 16 | pg/mL | 203 |
| | % Expected value | 100 |

Linearity of dilution.

Recombinant ALT was spiked into the following biological samples and diluted in a 2-fold dilution series in Sample Diluent NS + 1X Enhancer.


Sandwich ELISA - Human ALT ELISA Kit (ab234578)

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

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