abcam

Product datasheet

# Human IL-1 beta ELISA Kit ab46052

66 References　画像数 3

## 製品の概要

**製品名** Human IL-1 beta 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% |
|---|---|---|---|---|
| 6 | | | | 4.5% |

Inter-Assay（日差再現性）

| サンプル | N | 平均値 | SD | CV% |
|---|---|---|---|---|
| 6 | | | | 8.7% |

**サンプルの種類** Cell culture supernatant, Serum, Plasma

**アッセイタイプ** Sandwich (quantitative)

**検出感度** 6.5 pg/ml

**検出範囲** 15.6 pg/ml - 500 pg/ml

**添加回収試験** 102.2 %

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 | 102.2 | 15.6pg/ml - 500pg/ml |

**全工程の試験時間** 3h 45m

**ステップ** Multiple steps standard assay

**種交差性** **交差種:** Human

**製品の概要** Abcam’s Human IL-1 beta ab46052 *in vitro* ELISA (Enzyme-Linked Immunosorbent Assay) kit is designed for the quantitative measurement of IL-1 beta in Human serum, plasma, buffered solutions or cell culture medium.

A monoclonal antibody specific for IL-1 beta has been coated onto the wells of the microtiter strips provided. Samples, including standards of known IL-1 beta concentrations, control specimens or unknowns are pipetted into these wells. During the first incubation, the standards or

samples and a biotinylated monoclonal antibody specific for IL-1 beta are simultaneously incubated. After washing, the enzyme Streptavidin-HRP, that binds the biotinylated antibody is added, incubated and washed. A TMB substrate solution is added which acts on the bound enzyme to induce a colored reaction product. The intensity of this colored product is directly proportional to the concentration of IL-1 beta present in the samples.

This kit will recognize both endogenous and recombinant Human IL-1 beta.

**試験プラットフォーム** Microplate

## 製品の特性

**保存方法** Store at +4°C. Please refer to protocols.

| 内容 | ラベル | 1 x 96 tests | 2 x 96 tests | 1 x 96 tests |
|---|---|---|---|---|
| 10X Standard Diluent Buffer | Black | 1 x 15ml | 1 x 25ml | 1 x 15ml |
| 200X Wash Buffer | White | 1 x 10ml | 2 x 10ml | 1 x 10ml |
| Biotinylated Antibody Diluent | Red | 1 x 7.5ml | 1 x 13ml | 1 x 7.5ml |
| Biotinylated anti-IL-1 beta | Red | 1 x 400µl | 2 x 400µl | 1 x 400µl |
| Chromogen TMB Substrate Solution | | 1 x 11ml | 1 x 24ml | 1 x 11ml |
| Control | Silver | 2 vials | 4 vials | 2 vials |
| HRP Diluent | Red | 1 x 12ml | 1 x 23ml | 1 x 12ml |
| IL-1 beta Microplate (12 x 8 well strips) | | 1 unit | 2 units | 1 unit |
| IL1 beta standard | Yellow | 2 vials | 4 vials | 2 vials |
| Standard Diluent (Serum) | | 1 x 7ml | 2 x 7ml | 1 x 7ml |
| Stop Reagent | Black | 1 x 11ml | 2 x 11ml | 1 x 11ml |
| Streptavidin-HRP | | 2 x 5µl | 4 x 5µl | 2 x 5µl |

**機能** Potent proinflammatory cytokine. Initially discovered as the major endogenous pyrogen, induces prostaglandin synthesis, neutrophil influx and activation, T-cell activation and cytokine production, B-cell activation and antibody production, and fibroblast proliferation and collagen production. Promotes Th17 differentiation of T-cells.

**組織特異性** Expressed in activated monocytes/macrophages (at protein level).

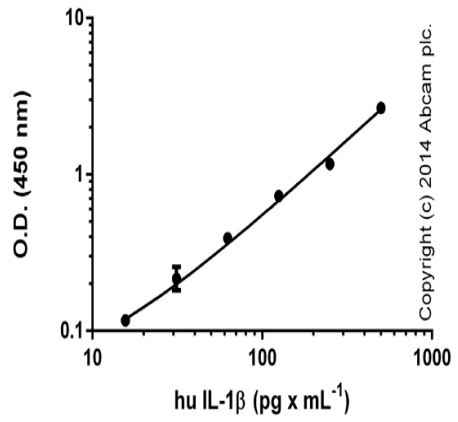
**配列類似性** Belongs to the IL-1 family.

**翻訳後修飾** Activation of the IL1B precursor involves a CASP1-catalyzed proteolytic cleavage. Processing and secretion are temporarily associated.

**細胞内局在** Cytoplasm, cytosol. Lysosome. Secreted, exosome. Cytoplasmic vesicle, autophagosome. Secreted. The precursor is cytosolic. In response to inflammasome-activating signals, such as ATP for NLRP3 inflammasome or bacterial flagellin for NLRC4 inflammasome, cleaved and secreted. IL1B lacks any known signal sequence and the pathway(s) of its secretion is(are) not yet

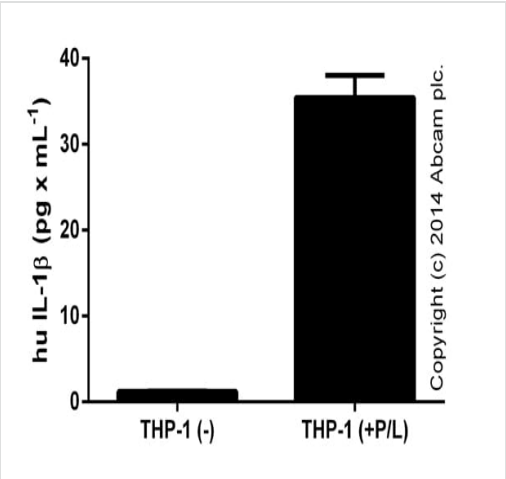
fully understood (PubMed:24201029). On the basis of experimental results, several unconventional secretion mechanisms have been proposed. 1. Secretion via secretory lysosomes: a fraction of CASP1 and IL1B precursor may be incorporated, by a yet undefined mechanism, into secretory lysosomes that undergo Ca(2+)-dependent exocytosis with release of mature IL1B (PubMed:15192144). 2. Secretory autophagy: IL1B-containing autophagosomes may fuse with endosomes or multivesicular bodies (MVBs) and then merge with the plasma membrane releasing soluble IL1B or IL1B-containing exosomes (PubMed:24201029). However, autophagy impacts IL1B production at several levels and its role in secretion is still controversial. 3. Secretion via exosomes: ATP-activation of P2RX7 leads to the formation of MVBs containing exosomes with entrapped IL1B, CASP1 and other inflammasome components. These MVBs undergo exocytosis with the release of exosomes. The release of soluble IL1B occurs after the lysis of exosome membranes (By similarity). 4. Secretion by microvesicle shedding: activation of the ATP receptor P2RX7 may induce an immediate shedding of membrane-derived microvesicles containing IL1B and possibly inflammasome components. The cytokine is then released in the extracellular compartment after microvesicle lysis (PubMed:11728343). 5. Release by translocation through permeabilized plasma membrane. This may occur in cells undergoing pyroptosis due to sustained activation of the inflammasome (By similarity). These mechanisms may not be not mutually exclusive.

## 画像



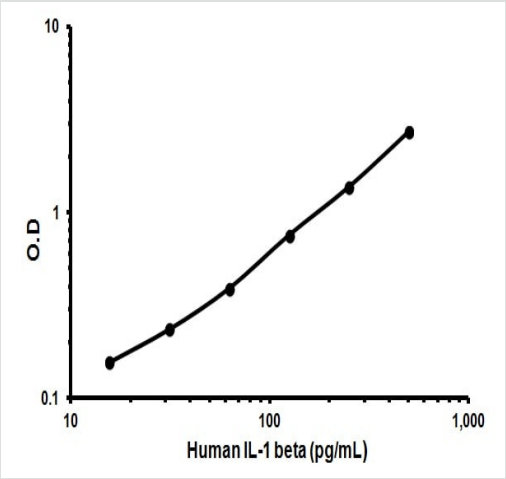

Standard curve of human IL-1β in standard diluent with background signal subtracted (duplicates; +/- SD).

ELISA: IL-1 beta Human ELISA Kit (ab46052)




IL-1β detected in supernatants from control THP-1 cells (-) or cells stimulated for 24 hours with 50 ng x $mL^{-1}$ of PMA (**ab120297**) and 1 ug x $mL^{-1}$ LPS (Sigma) for the last 6 hours (P+L).

ELISA: IL-1 beta Human ELISA Kit (ab46052)




Representative Standard Curve using ab46052

Typical Standard Curve

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