

Human IL-1 beta ELISPOT Kit (with un-coated plates) ab46608

2 References

製品の概要

製品名	Human IL-1 beta ELISPOT Kit (with un-coated plates)
検出方法	Colorimetric
サンプルの種類	Suspension cells
アッセイタイプ	Sandwich (qualitative)
ステップ	Multiple steps standard assay
種交差性	交差種: Human
製品の概要	Intended use

The Human IL-1 beta ELISPOT Kit (with un-coated plates) is designed to enumerate cytokine producing cells in a single cell suspension. This method has the advantage of requiring a minimum of in-vitro manipulations allowing cytokine production analysis as close as possible to in-vivo conditions in a highly specific way. This technique is designed to determine the frequency of cytokine producing cells under a given stimulation, and the follow-up of such frequency during a treatment and/or a pathological state. ELISPOT assay constitutes an ideal tool in the TH1 / TH2 response, vaccine development, viral infection monitoring and treatment, cancerology, infectious diseases, autoimmune diseases and transplantation.

This ELISPOT assay is based on sandwich immuno-enzyme technology. Cell secreted cytokines or soluble molecules are captured by coated antibodies avoiding diffusion in supernatant, protease degradation or binding on soluble membrane receptors. After cell removal, the captured cytokines are revealed by tracer antibodies and appropriate conjugates.

Principle of Method

After cell stimulation, locally produced cytokines are captured by a specific monoclonal antibody. After cell lysis, trapped cytokine molecules are revealed by a secondary biotinylated detection antibody, which is in turn recognised by streptavidin conjugated to alkaline phosphatase. PVDF-bottomed-well plates are then incubated with BCIP/NBT substrate. Colored "purple" spots indicate cytokine production by individual cells.

Recognizes natural (pro and mature) human IL-1 beta.

特記事項 Store plates at room temperature.

アプリケーション

適用あり: ELISpot

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	5 x 96 tests	10 x 96 tests
96 PVDF-bottomed-well plates.	5 units	10 units
Bovine Serum Albumin	1 x 1g	2 x 1g
Human IL-1 β Capture antibody	1 x 500 μ l	2 x 500 μ l
IL-1 β Biotinylated Detection antibody	1 vial	2 vials
Ready-to-use BCIP/NBT substrate buffer	1 x 50ml	2 x 50ml
Streptavidin - Alkaline Phosphatase conjugated	1 x 50 μ l	2 x 50 μ l

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.

アプリケーション

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アプリケーション	Abreviews	特記事項
ELISpot		Use at an assay dependent dilution.

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