abcam

Product datasheet

Recombinant mouse IL-1 beta protein (Active) ab259421

画像数 5

製品の詳細

製品名	Recombinant mouse IL-1 beta protein (Active)
生理活性	Fully biologically active compared to a standard. ED_{50} is ≤ 0.5294 ng /ml , corresponding to a specific activity of 1.89 x 10^6 units/mg.
精製度	>= 95 % SDS-PAGE. Purity by HPLC >=95%.
エンドトキシン・レベル	<=0.005 Eu/µg
発現系	HEK 293 cells
アクセッション番号	P10749
タンパク質長	Full length protein
Animal free	Yes
キャリア・フリー	はい
由来	Recombinant
生物種	Mouse
配列	VPIRQLHYRL RDEQQKSLVL SDPYELKALH LNGQNINQQV IFSMSFVQGE PSNDKIPVAL GLKGKNLYLS CVMKDGTPTL QLESVDPKQY PKKKMEKRFV FNKIEVKSKV EFESAEFPNW YISTSQAEHK PVFLGNNSGQ DIIDFTMESV SS
予測される分子量	17 kDa
分子量情報	M+0.61 Da (calc MW 17451.39 Da)
領域	118 to 269
配列の追加情報	N-Terminal Glycine. Full-length mature chain lacking the propeptide.

特性

Our **Abpromise guarantee** covers the use of **ab259421** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

アプリケーション	Cell Culture
	Functional Studies
	SDS-PAGE

Mass Spectrometry

HPLC

Sandwich ELISA

製品の状態 Lyophilized

備考 This protein is filter sterilised prior to aliquoting and lyophilisation. All aliquoting and lyophilisation steps are performed in a sterile environment

前処理および保存

保存方法および安定性 Shipped at Room Temperature. Store at Room Temperature.

pH: 6.00
Constituents: 0.727% Dibasic monohydrogen potassium phosphate, 0.248% Monobasic dihydrogen potassium phosphate, 10.26% Trehalose

Buffer lyophilised from

This product is an active protein and may elicit a biological response in vivo, handle with caution.

再構成 Reconstitute in PBS, aliquot and store at -80 C for 12 months or +4 C for 1 week. Avoid repeated freeze thaw. Lyophilized contents may appear as either a translucent film or a white powder. This variance does not affect the quality of the product.

関連情報

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).

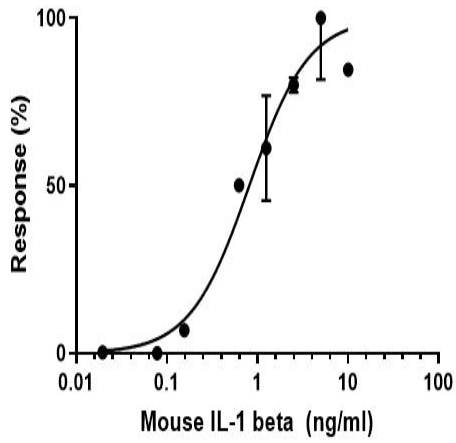
配列類似性 Belongs to the IL-1 family.

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

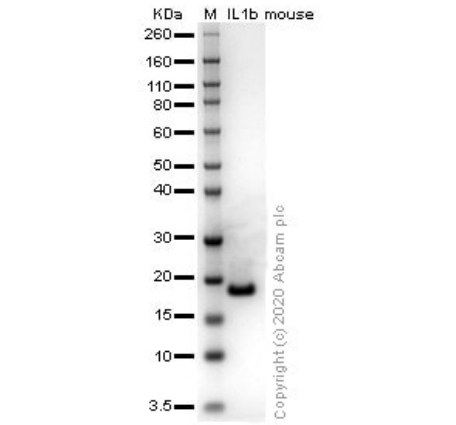
the ATP receptor P2RX7 may induce an immediate shedding of membrane-derived microvesicles containing IL1B and possibly inflammasome components. The cytokine is then released in the extracellular compartment after microvesicle lysis (PubMed:11728343). 5. Release by translocation through permeabilized 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



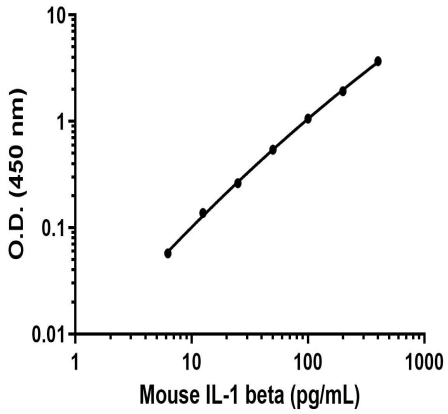
Functional Studies - Recombinant mouse IL-1 beta protein (Active) (ab259421)

Fully biologically active compared to a standard. Determined by dose-dependant stimulation of human TF-1 cells. ED_{50} is ≤ 0.5294 ng /ml, corresponding to a specific activity of 1.89 x 10^6 units/mg.



SDS-PAGE - Recombinant mouse IL-1 beta protein (Active) (ab259421)

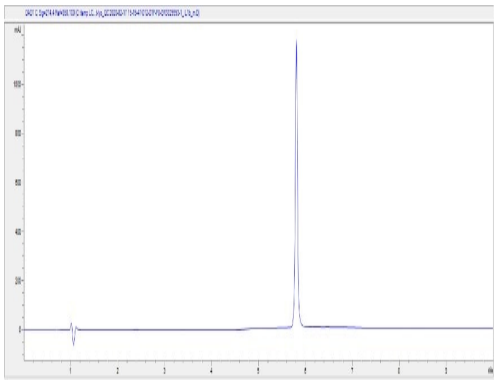
SDS-PAGE analysis of ab259421.



Sandwich ELISA - Recombinant mouse IL-1 beta protein (Active) (ab259421)

Sandwich ELISA - Recombinant mouse IL-1 beta protein standard curve

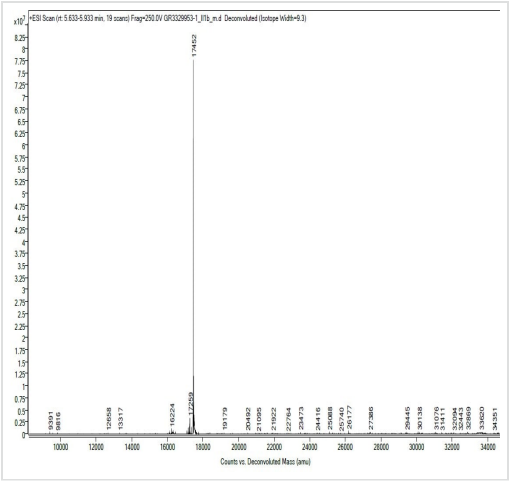
Background subtracted standard curve using Mouse IL-1beta Antibody Pair - BSA and Azide free (**ab241673**) and Recombinant mouse IL-1 beta protein (Active) (ab259421) in sandwich ELISA. The ELISA was performed using the components of the corresponding SimpleStep® kit, which uses the same antibody pair with a different formulation and format.



HPLC - Recombinant mouse IL-1 beta protein (Active) (ab259421)

Purity 100%

The spectrum was recorded using a 1260 Infinity II HPLC system with DAD and a MabPac RP column (3.0x100 mm, 4 µm). 5 µL of purified protein was injected and the gradient run from 80 % water:TFA (99.9:0.1 v/v) and 20 % acetonitrile:water:TFA (90:9.9:0.1 v/v/v) to 20 % water:TFA (99.9:0.1 v/v) and 80 % acetonitrile:water:TFA (90:9.9:0.1 v/v/v) within 3 minutes followed by an isocratic step for another 3 min. Flow rate was 0.5 mL/min and the column compartment temperature was 50 °C.



Mass Spectrometry - Recombinant mouse IL-1 beta protein (Active) (ab259421)

M + 0.61 Da (Calc. mass 17451.39).

The spectrum was recorded with a 6545XT AdvanceBio LC/Q-TOF (Agilent Technologies) and a MabPac RP column (42.1x50 mm, 4 µm, Thermo Scientific). 5 µL of purified protein was injected and the gradient run from 85 % water:FA (99.9:0.1 v/v) and 15 % acetonitrile:FA (90:9.9:0.1 v/v/v) to 55 % water:FA (99.9:0.1 v/v) and 45 % acetonitrile:FA (90:9.9:0.1 v/v/v) within 3 minutes followed by an isocratic step for another 2.5 min. Flow rate was 0.4 mL/min and the column compartment temperature was 60 °C. Data was analysed and deconvoluted using the Bioconfirm software (Agilent Technologies).