Biotin Conjugated Anti-Human IL-1 beta Antibody [PSH16-86] - Detector

HA723882B

Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Human
Applications:	ELISA(Det), ELISA
Clone number:	PSH16-86

Description: Interleukin-1 beta (IL-1β) also known as leukocytic pyrogen, leukocytic endogenous mediator, mononuclear cell factor, lymphocyte activating factor and other names, is a cytokine protein that in humans is encoded by the IL1B gene. There are two genes for interleukin-1 (IL-1): IL-1 alpha and IL-1 beta (this gene). IL-1β precursor is cleaved by cytosolic caspase 1 (interleukin 1 beta convertase) to form mature IL-1β. Increased production of IL-1β causes a number of different autoinflammatory syndromes, most notably the monogenic conditions referred to as Cryopyrin-Associated Periodic Syndromes (CAPS), due to mutations in the inflammasome receptor NLRP3 which triggers processing of IL-1B. Intestinal dysbiosis has been observed to induce osteomyelitis through a IL-1β dependent manner. The presence of IL-1β has been also found in patients with multiple sclerosis (a chronic autoimmune disease of the central nervous system). However, it is not known exactly which cells produce IL-1β. Treatment of multiple sclerosis with glatiramer acetate or natalizumab has also been shown to reduce the presence of IL-1β or its receptor.

Conjugate:	Biotin-conjugated
Immunogen:	Recombinant protein within Human IL-1 beta aa 117-269 (HA210576).
Positive control:	Recombinant Human IL-1 beta protein (HA210576).
Subcellular location:	Cytoplasm, Lysosome, Secreted
Database links:	SwissProt: P01584 Human

Recommended Dilutions:

ELISA(Det)	Use at an assay dependent concentration. Can be paired for Sandwich ELISA with Rabbit monoclonal [PSH16-85] to Human IL-1 beta antibody (Capture) (HA723881) or Rabbit monoclonal [PSH16-87] to Human IL-1 beta antibody (Capture) (HA723883) and Recombinant Human IL-1 beta protein (HA210576) as the standard. The reference range value is 3.9-1,000 pg/mL.
ELISA	Use at an assay dependent concentration.
Storage Buffer:	PBS (pH7.4), 0.1% BSA, 40% Glycerol. Preservative: 0.05% ProClin300.
Storage Instruction:	Shipped at 4℃. Store at +4℃ short term (1-2 weeks). It is recommended to aliquot into single-use upon delivery. Store at -20℃ long term.
Purity:	Protein A affinity purified.

Images

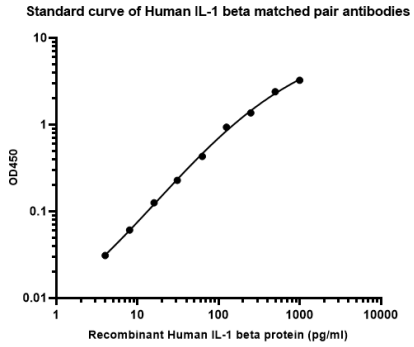

Fig1: Sandwich ELISA analysis of human IL1β matched pair antibodies

Capture: HA723881, Human IL-1 beta Rabbit mAb [PSH16-85]
Detector: HA723882, Human IL-1 beta Rabbit mAb [PSH16-86]

Elisa assay was performed by coating wells of a 96-well plate with 100 µl per well of capture antibody (HA723881) diluted in carbonate/bicarbonate buffer, at a concentration of 2ug/ml overnight at 4℃. Wells of the plate were washed, blocked with 150 µl 0.05% tween-20 1% BSA blocking buffer, and incubated with serial diluted Recombinant Human IL-1 beta protein (HA210576) starting from 1000 pg/ml to 0 pg/ml and detect antibody (HA723882, Biotin, 0.2 µg/ml) for 1 hour at 30℃ with shaking. Then the plate was washed and incubated with 100 µl per well of SA-HRP for 0.5 hour at 30℃ with shaking. Detection was performed using an Ultra TMB Substrate for 10 minutes at room temperature in the dark. The reaction was stopped with sulfuric acid and absorbances were read on a spectrophotometer at 450 nm.

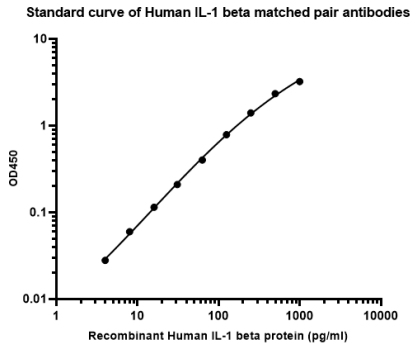

Fig2: Sandwich ELISA analysis of human IL1β matched pair antibodies

Capture: HA723881, Human IL-1 beta Rabbit mAb [PSH16-87]
Detector: HA723882, Human IL-1 beta Rabbit mAb [PSH16-86]

Elisa assay was performed by coating wells of a 96-well plate with 100 µl per well of capture antibody (HA723883) diluted in carbonate/bicarbonate buffer, at a concentration of 2ug/ml overnight at 4℃. Wells of the plate were washed, blocked with 150 µl 0.05% tween-20 1% BSA blocking buffer, and incubated with serial diluted Recombinant Human IL-1 beta protein (HA210576) starting from 1000 pg/ml to 0 pg/ml and detect antibody (HA723882, Biotin, 0.2 µg/ml) for 1 hour at 30℃ with shaking. Then the plate was washed and incubated with 100 µl per well of SA-HRP for 0.5 hour at 30℃ with shaking. Detection was performed using an Ultra TMB Substrate for 10 minutes at room temperature in the dark. The reaction was stopped with sulfuric acid and absorbances were read on a spectrophotometer at 450 nm.

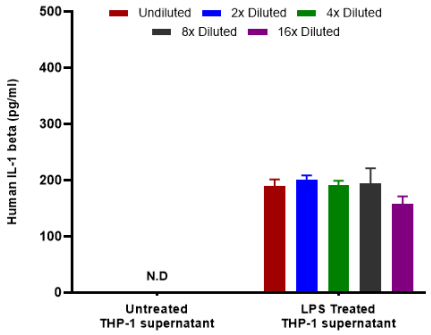

Fig3: Interpolated concentrations of native IL-1 beta in human THP-1 supernatant treated or untreated with LPS for 48 hours.

Capture: HA723881, Human IL-1 beta Rabbit mAb [PSH16-85]
Detector: HA723882, Human IL-1 beta Rabbit mAb [PSH16-86]

Interpolated concentration of native IL-1 beta was measured in duplicate at different sample concentrations and interpolated from the IL-1 beta standard curves. Undiluted samples were 100% cell supernatant. The interpolated dilution factor corrected values were plotted (mean +/- SD, n=2). The mean IL-1 beta concentration was determined to be 187 pg/mL in neat THP-1 treated supernatant and undetectable in untreated THP-1 supernatant.

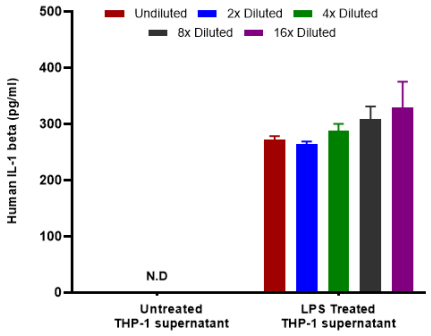

Fig4: Interpolated concentrations of native IL-1 beta in human THP-1 supernatant treated or untreated with LPS for 48 hours.

Capture: HA723881, Human IL-1 beta Rabbit mAb [PSH16-87]
Detector: HA723882, Human IL-1 beta Rabbit mAb [PSH16-86]

Interpolated concentration of native IL-1 beta was measured in duplicate at different sample concentrations and interpolated from the IL-1 beta standard curves. Undiluted samples were 100% cell supernatant. The interpolated dilution factor corrected values were plotted (mean +/- SD, n=2). The mean IL-1 beta concentration was determined to be 293 pg/mL in neat THP-1 treated supernatant and undetectable in untreated THP-1 supernatant.

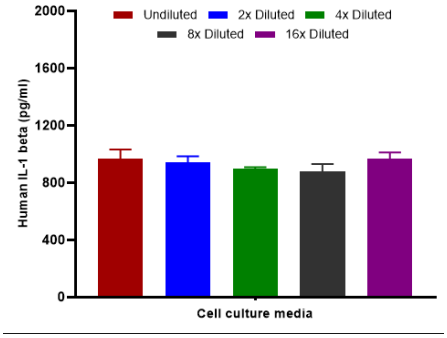

Fig5: Interpolated concentrations of spiked IL-1 beta in cell culture media samples.

Capture: HA723881, Human IL-1 beta Rabbit mAb [PSH16-85]
Detector: HA723882, Human IL-1 beta Rabbit mAb [PSH16-86]

The concentrations of IL-1 beta were measured in duplicates, interpolated from the IL-1 beta standard curves and corrected for sample dilution. Diluted samples are as follows: 50% cell culture media with FBS. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2).

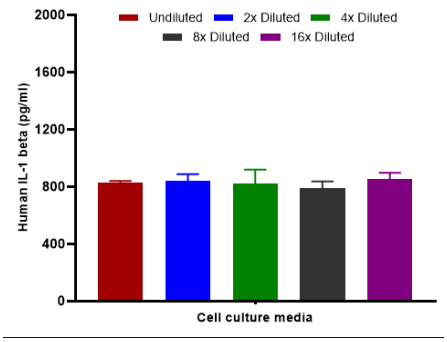

Fig6: Interpolated concentrations of spiked IL-1 beta in cell culture media samples.

Capture: HA723881, Human IL-1 beta Rabbit mAb [PSH16-87]
Detector: HA723882, Human IL-1 beta Rabbit mAb [PSH16-86]

The concentrations of IL-1 beta were measured in duplicates, interpolated from the IL-1 beta standard curves and corrected for sample dilution. Diluted samples are as follows: 50% cell culture media with FBS. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2).

Background References

1. Qiao J et al. Autologous platelet rich plasma injection can be effective in the management of osteoarthritis of the knee: impact on IL-1 beta, TNF-alpha, hs-CRP. J Orthop Surg Res. 2024 Oct
2. Vicens-Artés S et al. Effect of MP-AzeFlu in IL-1 beta-induced IL-6 and proinflammatory cytokines. Immunol Res. 2023 Jun