Anti-Human IL-1 beta Antibody [PS01-39] - BSA and Azide free (Capture)

HA721278

Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Human
Applications:	ELISA(Cap)
Molecular Wt:	Predicted band size: 31 kDa
Clone number:	PS01-39

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.

Immunogen: Recombinant protein within full length human IL-1 beta.

Positive control: Recombinant IL-1 beta protein

Subcellular location: Cytoplasm, Lysosome, Secreted

Database links: SwissProt: P01584 Human

Recommended Dilutions:

ELISA (Cap) Use at an assay dependent concentration. Can be paired for Sandwich ELISA with Rabbit monoclonal [PS00-82] to IL-1 beta (Detector) (HA721279).

Storage Buffer: PBS (pH7.4).

Storage Instruction: Store at +4℃ after thawing. Aliquot store at -20℃. Avoid repeated freeze / thaw cycles.

Purity: Protein A affinity purified.

Images

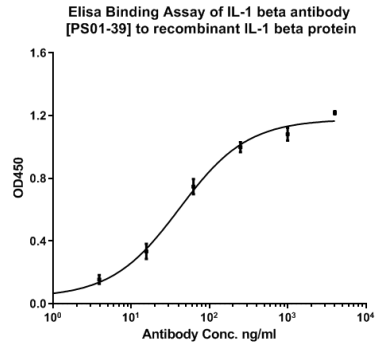

Fig1: The binding activity of IL-1 beta (HA721278) with recombinant IL-1 beta protein.

Immobilized recombinant IL-1 beta protein at 1 μg/ml overnight at 4℃. Then blocked with 1xTBS/1%BSA for 1 hour at 37℃, and incubated with the primary antibody (HA721278) for 45min at 37℃. Then the plate was washed and incubated with 50 μl per well of Goat anti-Rabbit IgG-HRP for 0.5 hour at 37℃. 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.

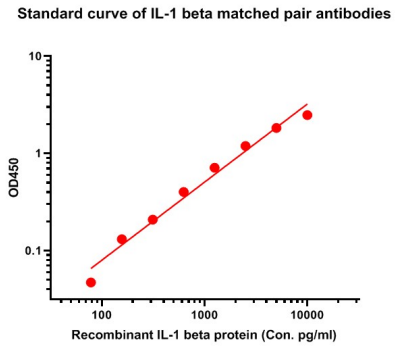

Fig2: Standard curve of IL-1 beta matched pair antibodies:

Sandwich ELISA analysis of IL-1 beta matched pair antibodies Elisa assay was performed by coating wells of a 96-well plate with 50 μl per well of capture antibody HA721278 [PS01-39] diluted in carbonate/bicarbonate buffer, at a concentration of 4 μg/mL overnight at 4℃. Wells of the plate were washed, blocked with 150 μl 1% BSA/PBST blocking buffer, and incubated with serial diluted recombinant IL-1 beta protein starting from 2000 pg/ml to 31.25 pg/ml for 1 hour at 37℃. The plate was washed and incubated with 50 μl per well of detect antibody [PS00-82] (Biotin, 1:2,000) for 1 hour at 37℃. Then the plate was washed and incubated with 50 μl per well of Streptavidin-HRP for 0.5 hour at 37℃. 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.

Note: All products are "FOR RESEARCH USE ONLY AND ARE NOT INTENDED FOR DIAGNOSTIC OR THERAPEUTIC USE".

Background References

1. Milosevic V, et al. (January 2020). "Wnt/IL-1β/IL-8 autocrine circuitries control chemoresistance in mesothelioma initiating cells by inducing ABCB5". Int. J. Cancer. 146 (1): 192–207.
2. Roy D, Sarkar S, Felty Q (January 2006). "Levels of IL-1 beta control stimulatory/inhibitory growth of cancer cells". Frontiers in Bioscience. 11: 889–98.