Biotin Conjugated Anti-Human Caspase-1 Antibody [PSH24-90] - Detector

HA724485B

Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Human
Applications:	ELISA(Det), ELISA
Clone number:	PSH24-90

Description: Caspase-1, originally designated ICE (for IL-1 converting enzyme), is a member of the group of caspases with large prodomains. Caspase-1 promotes maturation of interleukin IL-1β and interleukin18 (IL-18) by proteolytic cleavage of precursor forms into biologically active pro-inflamatory cytokines. Active caspase-1, a (p20/p10)2 tetramer, is necessary and sufficient for cleavage of precursor IL-1 as well as for induction of apoptosis in some cell lines. The highly conserved family of caspases mediate many of the morphological and biochemical features of apoptosis, including structural dismantling of cell bodies and nuclei, fragmentation of genomic DNA, destruction of regulatory proteins and propagation of other pro-apoptotic molecules. The human Caspase-1 gene maps to chromosome 2q14 and encodes a cytoplasmic protein expressed in liver, heart, skeletal muscle kidney and testis. Caspase-1 has been implicated in inflammation, septic shock, and other situations such as wound healing and the growth of certain leukemias.

Conjugate: Biotin-conjugated

Immunogen: Recombinant protein within Human Caspase-1 aa 120-404 (HA211426).

Positive control: Recombinant Human Caspase-1 protein (HA211426).

Subcellular location: Cytoplasm, Cell membrane.

Database links: SwissProt: P29466 Human

Recommended Dilutions:

ELISA(Det)	Use at an assay dependent concentration. Can be paired for Sandwich ELISA with Rabbit monoclonal [PSH24-89] to Human Caspase-1 (Capture) (HA724484) or Rabbit monoclonal [PSH24-91] to Human Caspase-1 (Capture) (HA724486) and Recombinant Human Caspase-1 protein (HA211426) as the standard. The reference range value is 23.4-3,000 pg/mL.
ELISA	Use at an assay dependent concentration.

Storage Buffer: 1*PBS (pH7.4), 0.1% BSA, 40% Glycerol, 0.05% Proclean 300.

Storage Instruction: Shipped at 4℃. Store at +4℃ short term (1-2 weeks). Store at -20℃ long term.

Purity: Protein A affinity purified.

Images

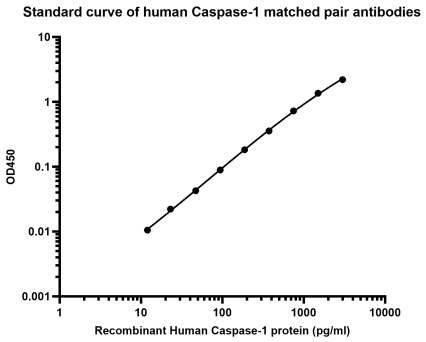

Fig1: Sandwich ELISA analysis of Human Caspase-1 matched pair antibodies

Capture: HA724484, Human Caspase-1 Rabbit mAb [PSH24-89]
Detector: HA724485, Human Caspase-1 Rabbit mAb [PSH24-90]

Elisa assay was performed by coating wells of a 96-well plate with 100 µl per well of capture antibody (HA724484) diluted in carbonate/bicarbonate buffer, at a concentration of 5 µg/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 Caspase-1 protein (HA211426) starting from 3,000 pg/mL to 0 pg/mL and detect antibody (HA724485, 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.

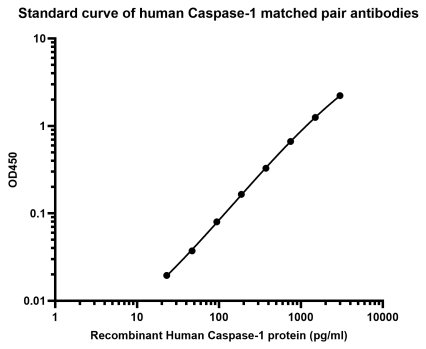

Fig2: Sandwich ELISA analysis of Human Caspase-1 matched pair antibodies

Capture: HA724486, Human Caspase-1 Rabbit mAb [PSH24-91]
Detector: HA724485, Human Caspase-1 Rabbit mAb [PSH24-90]

Elisa assay was performed by coating wells of a 96-well plate with 100 µl per well of capture antibody (HA724486) diluted in carbonate/bicarbonate buffer, at a concentration of 5 µg/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 Caspase-1 protein (HA211426) starting from 3,000 pg/mL to 0 pg/mL and detect antibody (HA724485, 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.

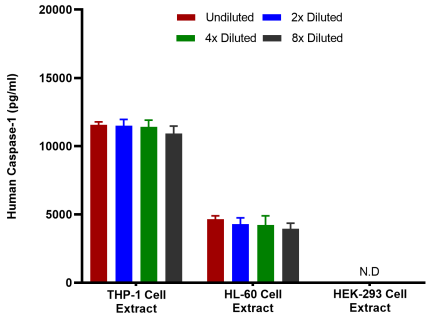

Fig3: Interpolated concentrations of native Caspase-1 in THP-1, HL-60 and HEK-293 cell extract samples based on a 1,000 µg/ml extract load.

Capture: HA724484, Human Caspase-1 Rabbit mAb [PSH24-89]
Detector: HA724485, Human Caspase-1 Rabbit mAb [PSH24-90]

Interpolated concentration of native Caspase-1 was measured in duplicate at different sample concentrations and interpolated from the Caspase-1 standard curves. The interpolated dilution factor corrected values were plotted (mean +/- SD, n=2). The mean Caspase-1 concentration was determined to be 11,357 pg/mL in THP-1 cell extract and 4,280 pg/mL in HL-60 cell extract. There was no detectable signal in HEK-293 cell extract.

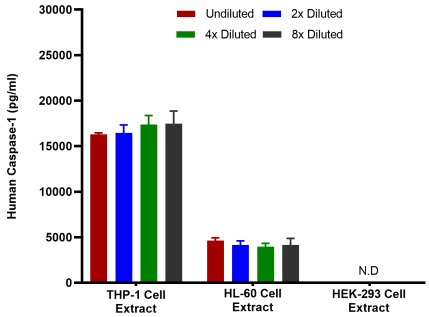

Fig4: Interpolated concentrations of native Caspase-1 in THP-1, HL-60 and HEK-293 cell extract samples based on a 1,000 µg/ml extract load.

Capture: HA724486, Human Caspase-1 Rabbit mAb [PSH24-91]
Detector: HA724485, Human Caspase-1 Rabbit mAb [PSH24-90]

Interpolated concentration of native Caspase-1 was measured in duplicate at different sample concentrations and interpolated from the Caspase-1 standard curves. The interpolated dilution factor corrected values were plotted (mean +/- SD, n=2). The mean Caspase-1 concentration was determined to be 16,889 pg/mL in THP-1 cell extract and 4,216 pg/mL in HL-60 cell extract. There was no detectable signal in HEK-293 cell extract.

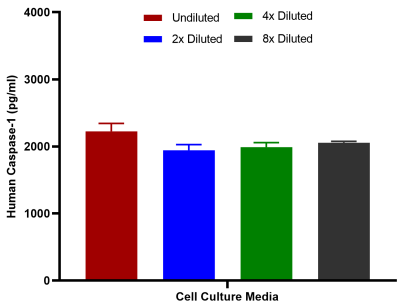

Fig5: Interpolated concentrations of spiked Caspase-1 in cell culture media samples.

Capture: HA724484, Human Caspase-1 Rabbit mAb [PSH24-89]
Detector: HA724485, Human Caspase-1 Rabbit mAb [PSH24-90]

The concentrations of Caspase-1 were measured in duplicates, interpolated from the Caspase-1 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).

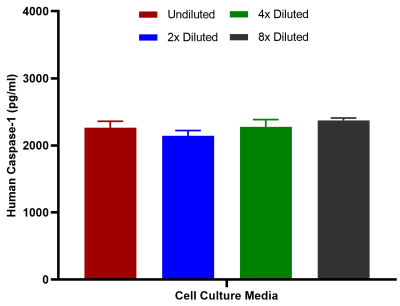

Fig6: Interpolated concentrations of spiked Caspase-1 in cell culture media samples.

Capture: HA724486, Human Caspase-1 Rabbit mAb [PSH24-91]
Detector: HA724485, Human Caspase-1 Rabbit mAb [PSH24-90]

The concentrations of Caspase-1 were measured in duplicates, interpolated from the Caspase-1 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. Zhao J et al. Synthetic Oligodeoxynucleotides Containing Multiple Telemeric TTAGGG Motifs Suppress Inflammasome Activity in Macrophages Subjected to Oxygen and Glucose Deprivation and Reduce Ischemic Brain Injury in Stroke-Prone Spontaneously Hypertensive Rats. PLoS One 10:e0140772 (2015).
2. Zhang X et al. Porcine Mx1 fused to HIV Tat protein transduction domain (PTD) inhibits classical swine fever virus infection in vitro and in vivo. BMC Vet Res 11:264 (2015).