Anti-Human Granzyme B Antibody [PSH15-99] - BSA and Azide free (Detector)

HA723804

Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Human
Applications:	ELISA(Det)
Clone number:	PSH15-99

Description: Granzyme B (GrB) is one of the serine protease granzymes most commonly found in the granules of natural killer cells (NK cells) and cytotoxic T cells. It is secreted by these cells along with the pore forming protein perforin to mediate apoptosis in target cells. Granzyme B has also been found to be produced by a wide range of non-cytotoxic cells ranging from basophils and mast cells to smooth muscle cells. The secondary functions of granzyme B are also numerous. Granzyme B has shown to be involved in inducing inflammation by stimulating cytokine release and is also involved in extracellular matrix remodelling. Elevated levels of granzyme B are also implicated in a number of autoimmune diseases, several skin diseases, and type 1 diabetes.

Immunogen: Recombinant protein within Human Granzyme B aa 19-247 (HA211076).

Positive control: Recombinant Human Granzyme B protein (HA211076).

Subcellular location: Secreted, Cytolytic granule.

Database links: SwissProt: P10144 Human

Recommended Dilutions:

ELISA(Det) Use at an assay dependent concentration. Can be paired for Sandwich ELISA with Rabbit monoclonal [PSH15-98] to Human Granzyme B antibody (Capture) (HA723803) and Recombinant Human Granzyme B protein (HA211076) as the standard. The reference range value is 78.1-10,000 pg/mL.

Storage Buffer: 1*PBS (pH7.4).

Storage Instruction: Store at 2-8℃. Avoid freeze.

Purity: Protein A affinity purified.

Images

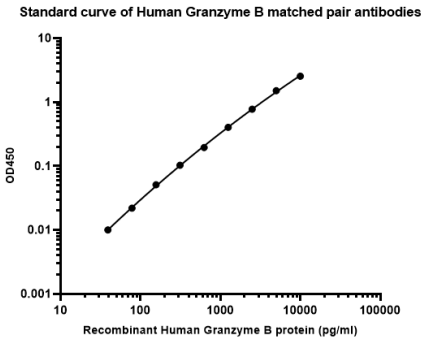


Fig1: Sandwich ELISA analysis of Human Granzyme B matched pair antibodies

Capture: HA723803, Human Granzyme B Rabbit mAb [PSH15-98]
Detector: HA723804, Human Granzyme B Rabbit mAb [PSH15-99]

Elisa assay was performed by coating wells of a 96-well plate with 50 µl per well of capture antibody (HA723803) 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 Granzyme B protein (HA211076) protein starting from 10,000 pg/ml to 0 pg/ml and detect antibody (HA723804, Biotin, 0.2 µg/ml) for 1 hour at 30℃ with shaking. Then the plate was washed and incubated with 50 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.

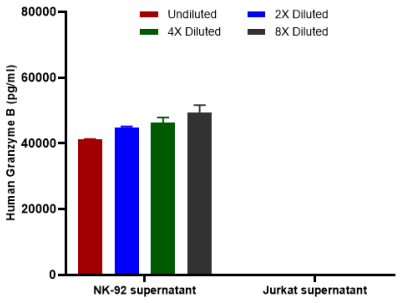


Fig2: Interpolated concentrations of native Granzyme B in NK-92 and Jurkat cell culture supernatant.

Capture: HA723803, Human Granzyme B Rabbit mAb [PSH15-98]
Detector: HA723804, Human Granzyme B Rabbit mAb [PSH15-99]

The concentrations of Granzyme B were measured in duplicates, interpolated from the Granzyme B standard curve and corrected for sample dilution. Undiluted samples are NK-92 cell culture supernatant 10% and Jurkat cell culture supernatant 50%. The interpolated dilution factor corrected values are plotted (mean +/- SD, n=2). The mean Granzyme B concentration was determined to be 45,446 pg/ml in NK-92 cell culture supernatant and undetectable in Jurkat cell culture supernatant.

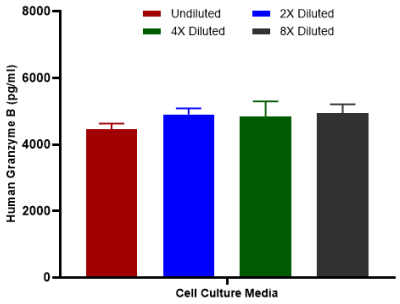


Fig3: Interpolated concentrations of spiked Granzyme B in human cell culture media samples.

Capture: HA723803, Human Granzyme B Rabbit mAb [PSH15-98]
Detector: HA723804, Human Granzyme B Rabbit mAb [PSH15-99]

The concentrations of Granzyme B were measured in duplicates, interpolated from the Granzyme B 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).

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

Background References

1. Gleave A et al. Granzyme B in Autoimmune Skin Disease. Biomolecules. 2023 Feb
2. Richardson KC et al. Granzyme B in aging and age-related pathologies. Trends Mol Med. 2024 Dec