Anti-Human GDF15 Antibody [PSH16-00] - BSA and Azide free (Capture)

HA723805

Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Human
Applications:	ELISA(Cap)
Clone number:	PSH16-00

Description: Growth/differentiation factor 15 is a protein that in humans is encoded by the GDF15 gene. GDF15 was first identified as Macrophage inhibitory cytokine-1 or MIC-1. It is a protein belonging to the transforming growth factor beta superfamily. Under normal conditions, GDF15 is expressed in low concentrations in most organs and upregulated because of injury of organs such as liver, kidney, heart and lung. The function of GDF15 is not fully clear but it seems to have a role in regulating inflammatory pathways and to be involved in regulating apoptosis, angiogenesis, cell repair and cell growth, which are biological processes observed in cardiovascular and neoplastic disorders.

Immunogen: Recombinant protein within Human GDF15 aa 195-308.

Positive control: Recombinant Human GDF-15 protein.

Subcellular location: Secreted.

Database links: SwissProt: Q99988 Human

Recommended Dilutions:

ELISA(Cap) Use at an assay dependent concentration. Can be paired for Sandwich ELISA with Rabbit monoclonal [PSH16-01] to Human GDF-15 antibody (Detector) (HA723806) or Rabbit monoclonal [PSH16-02] to Human GDF-15 antibody (Detector) (HA723807) and Recombinant Human GDF-15 protein as the standard. The reference range value is 11.7-3,000 pg/mL.

Storage Buffer: 1*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

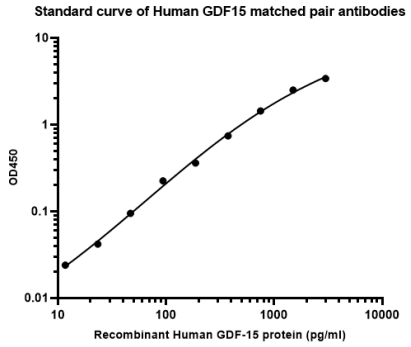

Fig1: Sandwich ELISA analysis of Human GDF15 matched pair antibodies

Capture: HA723805, Human GDF-15 Rabbit mAb [PSH16-00]
Detector: HA723806, Human GDF-15 Rabbit mAb [PSH16-01]

Elisa assay was performed by coating wells of a 96-well plate with 100 µl per well of capture antibody (HA723805) 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 GDF-15 protein starting from 3000 pg/ml to 0 pg/ml and detect antibody (HA723806, 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.

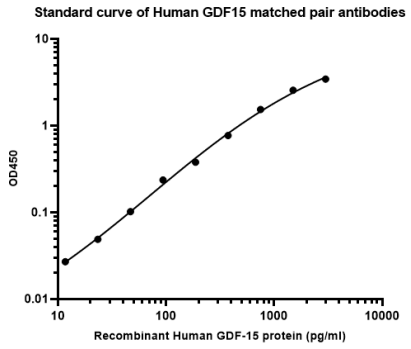

Fig2: Sandwich ELISA analysis of Human GDF15 matched pair antibodies

Capture: HA723805, Human GDF-15 Rabbit mAb [PSH16-00]
Detector: HA723807, Human GDF-15 Rabbit mAb [PSH16-02]

Elisa assay was performed by coating wells of a 96-well plate with 100 µl per well of capture antibody (HA723805) 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 GDF-15 protein starting from 3000 pg/ml to 0 pg/ml and detect antibody (HA723807, 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.

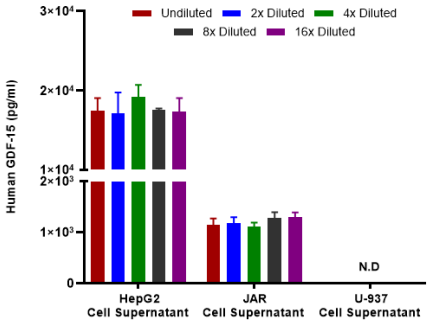

Fig3: Interpolated concentrations of native GDF-15 in human samples.

Capture: HA723805, Human GDF-15 Rabbit mAb [PSH16-00]
Detector: HA723806, Human GDF-15 Rabbit mAb [PSH16-01]

Interpolated concentration of native GDF-15 was measured in duplicate at different sample concentrations. The interpolated dilution factor corrected values were plotted (mean +/- SD, n=2). The mean GDF-15 concentration was determined to be 17,760 pg/mL in HepG2 and 1,208 pg/ml in JAR cell culture supernatant . There was no detectable signal in U-937 cell culture supernatant.

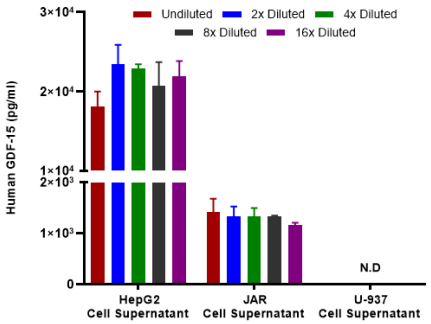

Fig4: Interpolated concentrations of native GDF-15 in human samples.

Capture: HA723805, Human GDF-15 Rabbit mAb [PSH16-00]
Detector: HA723807, Human GDF-15 Rabbit mAb [PSH16-02]

Interpolated concentration of native GDF-15 was measured in duplicate at different sample concentrations. The interpolated dilution factor corrected values were plotted (mean +/- SD, n=2). The mean GDF-15 concentration was determined to be 21,440 pg/mL in HepG2 and 1,319 pg/ml in JAR cell culture supernatant . There was no detectable signal in U-937 cell culture supernatant.

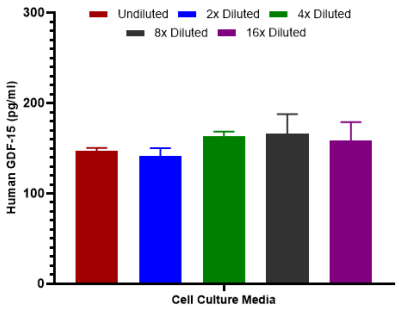

Fig5: Interpolated concentrations of spiked GDF-15 in cell culture media samples.

Capture: HA723805, Human GDF-15 Rabbit mAb [PSH16-00]
Detector: HA723806, Human GDF-15 Rabbit mAb [PSH16-01]

The concentrations of GDF-15 were measured in duplicates, interpolated from the GDF-15 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).

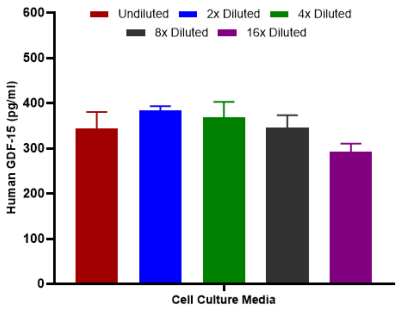

Fig6: Interpolated concentrations of spiked GDF-15 in cell culture media samples.

Capture: HA723805, Human GDF-15 Rabbit mAb [PSH16-00]
Detector: HA723807, Human GDF-15 Rabbit mAb [PSH16-02]

The concentrations of GDF-15 were measured in duplicates, interpolated from the GDF-15 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. Wang D et al. GDF15: emerging biology and therapeutic applications for obesity and cardiometabolic disease. Nat Rev Endocrinol. 2021 Oct
2. Conte M et al. GDF15, an emerging key player in human aging. Ageing Res Rev. 2022 Mar