Anti-Human Apolipoprotein E Antibody [PSH20-19] - BSA and Azide free (Detector)

HA724130

Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Human
Applications:	ELISA(Det)
Clone number:	PSH20-19

Description: Apolipoprotein-E (apoE) is a protein component of plasma lipoproteins that mediates the binding, internalization and catabolism of lipoprotein particles. It can serve as a ligand for several lipoprotein receptors, including the LDL (ApoB/E) receptor and the hepatic apoE (chylomicron remnant) receptor. apoE is produced in most organs and occurs in all plasma lipoprotein fractions, constituting 10-20% of VLDL (very low density lipoprotein) and 1-2% of HDL (high density lipoprotein). Three major isoforms of apoE have been described in human (E2, E3 and E4) which differ by only one or two amino acids. Estrogen receptor has been shown to upregulate apoE gene expression via the ERa-mediated pathway, indicating a potential role for apoE in atherosclerosis. This is consistent with studies in mice in which plasma apoE levels were raised, thereby protecting the mice from diet-induced atherosclerosis. apoE has also been shown to be a potent inhibitor of proliferation and thus may play a role in angiogenesis, tumor cell growth and metastasis.

Immunogen: Recombinant protein within Human Apolipoprotein E aa 19-317 (HA211078).

Positive control: Recombinant Human Apolipoprotein E protein (HA211078).

Subcellular location: Secreted, extracellular space, extracellular matrix, Extracellular vesicle, Endosome, multivesicular body.

Database links: SwissProt: P02649 Human

Recommended Dilutions:

ELISA(Det) Use at an assay dependent concentration. Can be paired for Sandwich ELISA with Rabbit monoclonal [PSH20-18] to Human Apolipoprotein E antibody (Capture) (HA724129) or Rabbit monoclonal [PSH20-20] to Human Apolipoprotein E antibody (Capture) (HA724131) and Recombinant Human Apolipoprotein E protein (HA211078) as the standard. The reference range value is 39.1-10,000 pg/mL.

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

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

Purity: Protein A affinity purified.

Images

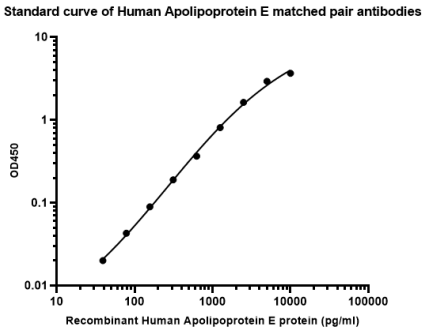

Fig1: Sandwich ELISA analysis of Human Apolipoprotein E matched pair antibodies

Capture: HA724129, Human Apolipoprotein E Rabbit mAb [PSH20-18]
Detector: HA724130, Human Apolipoprotein E Rabbit mAb [PSH20-19]

Elisa assay was performed by coating wells of a 96-well plate with 100 µl per well of capture antibody (HA724129) diluted in carbonate/bicarbonate buffer, at a concentration of 2 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 APOE protein starting from 10,000 pg/ml to 0 pg/ml and detect antibody (HA724130, 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.

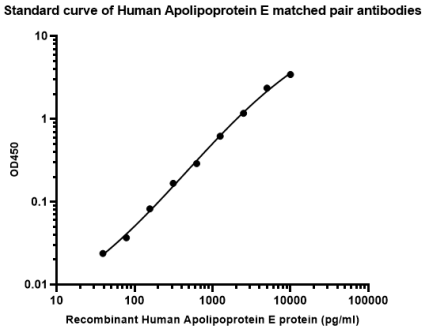

Fig2: Sandwich ELISA analysis of Human Apolipoprotein E matched pair antibodies

Capture: HA724131, Human Apolipoprotein E Rabbit mAb [PSH20-18]
Detector: HA724130, Human Apolipoprotein E Rabbit mAb [PSH20-19]

Elisa assay was performed by coating wells of a 96-well plate with 100 µl per well of capture antibody (HA724131) diluted in carbonate/bicarbonate buffer, at a concentration of 2 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 APOE protein starting from 10,000 pg/ml to 0 pg/ml and detect antibody (HA724130, 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.

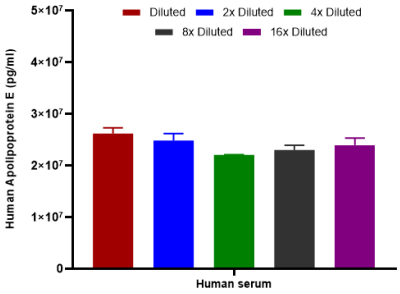

Fig3: Interpolated concentrations of native Apolipoprotein E in Human serum.

Capture: HA724129, Human Apolipoprotein E Rabbit mAb [PSH20-18]
Detector: HA724130, Human Apolipoprotein E Rabbit mAb [PSH20-19]

Interpolated concentration of native Apolipoprotein E was measured in duplicate at different sample concentrations and interpolated from the Apolipoprotein E standard curves. The interpolated dilution factor corrected values were plotted (mean +/- SD, n=2). The mean Apolipoprotein E concentration was determined to be 26.2 ug/ml in Human serum.

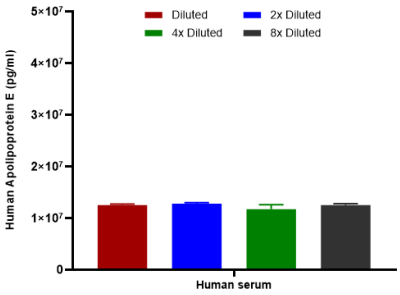

Fig4: Interpolated concentrations of native Apolipoprotein E in Human serum.

Capture: HA724131, Human Apolipoprotein E Rabbit mAb [PSH20-18]
Detector: HA724130, Human Apolipoprotein E Rabbit mAb [PSH20-19]

Interpolated concentration of native Apolipoprotein E was measured in duplicate at different sample concentrations and interpolated from the Apolipoprotein E standard curves. The interpolated dilution factor corrected values were plotted (mean +/- SD, n=2). The mean Apolipoprotein E concentration was determined to be 12.5 ug/ml in Human serum.

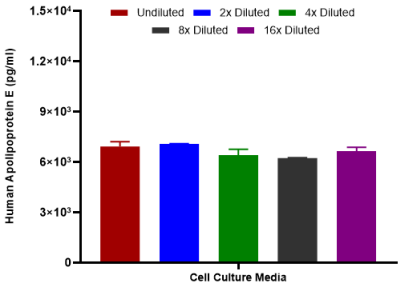

Fig5: Interpolated concentrations of spiked Apolipoprotein E in cell culture media samples.

Capture: HA724129, Human Apolipoprotein E Rabbit mAb [PSH20-18]
Detector: HA724130, Human Apolipoprotein E Rabbit mAb [PSH20-19]

The concentrations of Apolipoprotein E were measured in duplicates, interpolated from the Apolipoprotein E 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).

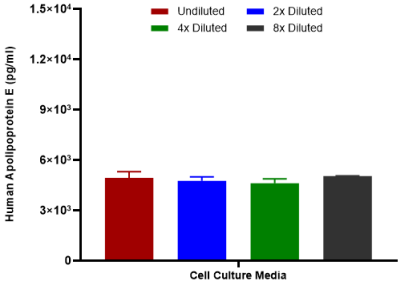

Fig6: Interpolated concentrations of spiked Apolipoprotein E in cell culture media samples.

Capture: HA724131, Human Apolipoprotein E Rabbit mAb [PSH20-18]
Detector: HA724130, Human Apolipoprotein E Rabbit mAb [PSH20-19]

The concentrations of Apolipoprotein E were measured in duplicates, interpolated from the Apolipoprotein E 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. Yang LG et al. Apolipoprotein E in lipid metabolism and neurodegenerative disease. Trends Endocrinol Metab. 2023 Aug
2. Saito T et al. Apolipoprotein E-related glomerular disorders. Kidney Int. 2020 Feb