Anti-Human Myeloperoxidase Antibody [PSH14-78] - BSA and Azide free (Capture)

HA723673

Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Human
Applications:	ELISA(Cap)
Clone number:	PSH14-78

Description: Myeloperoxidase (MPO) is a peroxidase enzyme that in humans is encoded by the MPO gene on chromosome 17. MPO is most abundantly expressed in neutrophil granulocytes (a subtype of white blood cells), and produces hypohalous acids to carry out their antimicrobial activity, including hypochlorous acid, the sodium salt of which is the chemical in bleach. It is a lysosomal protein stored in azurophilic granules of the neutrophil and released into the extracellular space during degranulation. Neutrophil myeloperoxidase has a heme pigment, which causes its green color in secretions rich in neutrophils, such as mucus and sputum. The green color contributed to its outdated name verdoperoxidase. Immunohistochemical staining for myeloperoxidase used to be administered in the diagnosis of acute myeloid leukemia to demonstrate that the leukemic cells were derived from the myeloid lineage. Myeloperoxidase staining is still important in the diagnosis of myeloid sarcoma, contrasting with the negative staining of lymphomas, which can otherwise have a similar appearance.

Immunogen: Recombinant protein within Human Myeloperoxidase aa 49-745 (HA211022).

Positive control: Recombinant Human Myeloperoxidase protein (HA211022).

Subcellular location: Lysosome.

Database links: SwissProt: P05164 Human

Recommended Dilutions:

ELISA(Cap) Use at an assay dependent concentration. Can be paired for Sandwich ELISA with Rabbit monoclonal [PSH14-79] to Human Myeloperoxidase antibody (Detector) (HA723674) and Recombinant Human Myeloperoxidase protein (HA211022) as the standard. The reference range value is 93.8-12,000 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

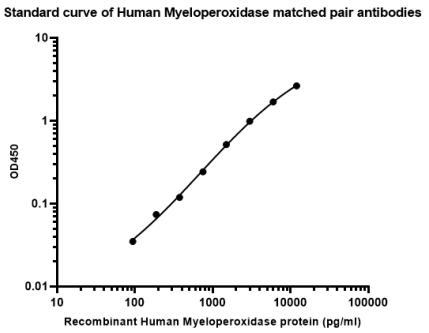

Fig1: Sandwich ELISA analysis of Human Myeloperoxidase matched pair antibodies

Capture: HA723673, Human Myeloperoxidase Rabbit mAb [PSH14-78]
Detector: HA723674, Human Myeloperoxidase Rabbit mAb [PSH14-79]

Elisa assay was performed by coating wells of a 96-well plate with 100 µl per well of capture antibody (HA723673) 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 Myeloperoxidase protein (HA211022) starting from 12,000 pg/ml to 0 pg/ml and detect antibody (HA723674, 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.

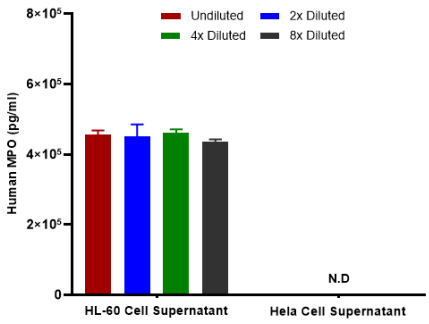

Fig2: Interpolated concentrations of native Myeloperoxidase in human samples.

Capture: HA723673, Human Myeloperoxidase Rabbit mAb [PSH14-78]
Detector: HA723674, Human Myeloperoxidase Rabbit mAb [PSH14-79]

Interpolated concentration of native Myeloperoxidase was measured in duplicate at different sample concentrations and interpolated from the Myeloperoxidase standard curves. The interpolated dilution factor corrected values were plotted (mean +/- SD, n=2). The mean Myeloperoxidase concentration was determined to be 432 ng/mL in HL-60 cell supernatant. There was no detectable signal in Hela cell supernatant.

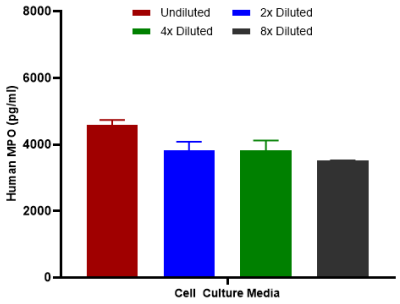

Fig3: Interpolated concentrations of spiked Myeloperoxidase in cell culture media samples.

Capture: HA723673, Human Myeloperoxidase Rabbit mAb [PSH14-78]
Detector: HA723674, Human Myeloperoxidase Rabbit mAb [PSH14-79]

The concentrations of Myeloperoxidase were measured in duplicates, interpolated from the Myeloperoxidase standard curves and corrected for sample dilution. Undiluted samples are as follows: cell culture media 50%. 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. Hu CH. et. al. Small molecule and macrocyclic pyrazole derived inhibitors of myeloperoxidase (MPO). Bioorg Med Chem Lett. 2021 Jun
2. Chen S. et. al. Targeting Myeloperoxidase (MPO) Mediated Oxidative Stress and Inflammation for Reducing Brain Ischemia Injury: Potential Application of Natural Compounds. Front Physiol. 2020 May