abcam

ab25989

Anti-Myeloperoxidase antibody [2C7]

Anti-Myeloperoxidase antibody [2C7] (ab25989) is a mouse monoclonal antibody detecting Myeloperoxidase in **Flow Cytometry**. Suitable for **Human**.

- Over 90 publications
- Trusted since 2005

Key facts

Isotype	IgG1
Host species	Mouse
Storage buffer	Preservative: 0.09% Sodium azide Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	Native Full Length Protein corresponding to Human MPO. Database link P05164
Clone number	2C7
Purification technique	Affinity purification Protein A
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	1/25000

Notes	-

Target data

See full target information MPO

Function	Part of the host defense system of polymorphonuclear leukocytes. It is responsible for microbicidal activity against a wide range of organisms. In the stimulated PMN, MPO catalyzes the production of hypohalous acids, primarily hypochlorous acid in physiologic situations, and other toxic intermediates that greatly enhance PMN microbicidal activity (PubMed:9922160). Mediates the proteolytic cleavage of alpha-1-microglobulin to form t-alpha-1-microglobulin, which potently inhibits oxidation of low-density lipoprotein particles and limits vascular damage (PubMed:25698971).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

What is this antibody validated in?
Anti-Myeloperoxidase antibody [2C7] (ab25989) is a mouse monoclonal antibody and is validated for use in Flow Cytometry (Flow Cyt) in Human samples.

Trusted by the scientific community
Anti-Myeloperoxidase [2C7] (ab25989) was first used in a scientific publication in 2005 and has been cited over 90 times in peer-reviewed journals.

Reviewed by scientists
Anti-Myeloperoxidase [2C7] (ab25989) has over 5 independent reviews from customers.

Other related products
We have a range of other formats of antibody clone [2C7] also available for your convenience: ab283263, Carrier free - ab283284, FITC - ab11729, PE - ab11730

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	Myeloperoxidase also called MPO is an enzyme that plays a critical role in the body's immune response. This protein has a mass of approximately 150 kDa and exists as a dimer composed of heavy and light polypeptide chains. Myeloperoxidase is prominently expressed in neutrophils and monocytes which are types of white blood cells important for combating infections. The enzyme catalyzes the production of hypochlorous acid and other reactive substances by utilizing hydrogen peroxide and chloride ions. These reactive substances help in neutralizing pathogens during the immune response.
Biological function summary	The generation of reactive oxygen species by myeloperoxidase is essential for microbicidal activity. Myeloperoxidase functions as part of the antimicrobial system in the phagosome which is the intracellular compartment where pathogens are degraded. This enzyme works in conjunction with other components of the immune system such as NADPH oxidase. By generating hypochlorous acid MPO contributes to the oxidative burst a rapid release of reactive oxygen species during the response to pathogens.
Pathways	Myeloperoxidase integrates into the immune defense and inflammatory pathways. In particular it is associated with the neutrophil degranulation pathway where it releases its enzymatic contents to fight off microbes. MPO also interacts with proteins involved in oxidative stress processes such as superoxide dismutase which moderates levels of reactive oxygen species in cells. These interactions ensure balance in the immune response preventing excessive tissue damage during inflammation.
Associated diseases and disorders	Dysregulated MPO activity can contribute to the development of diseases. For instance myeloperoxidase is linked with atherosclerosis a cardiovascular condition where inflammation and oxidative stress lead to plaque formation in the arteries. It also associates with vasculitis an autoimmune disorder causing inflammation of blood vessels. Both disorders can relate to the inflammatory pathways that involve MPO and proteins like C-reactive protein which serves as a marker of inflammation. Understanding MPO's role in these conditions is important for effective therapeutic interventions.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

We do not recommend this combination. It is not covered by our product promise.

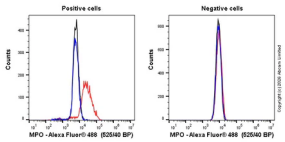
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

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1 product image



Flow Cytometry (Intracellular) - Anti-Myeloperoxidase antibody [2C7] (ab25989)

Myeloperoxidase Flow Cytometry (Intracellular) staining using mouse Anti-Myeloperoxidase antibody

Flow cytometry overlay histogram showing left HL-60 positive cells and right negative HeLa stained with ab25989 (red line). The cells were fixed with 4% formaldehyde (10 min) and then permeabilised with 0.1% PBS-Triton X-100 for 15 min. The cells were then incubated in 1x PBS containing 10µg/ml human IgG and 10% normal goat serum to block FC receptors and non-specific protein-protein interaction followed by the antibody (ab25989) (1x 10^6 in 100µl at 0.04µg/ml (1/25000)) for 30min at 22°C.

The secondary antibody Goat Anti-Mouse IgG H&L (Alexa Fluor® 488) preadsorbed was incubated at 1/4000 for 30min at 22°C

Isotype control antibody (black line) was Mouse IgG1, kappa monoclonal [15-6E10A7] - Isotype Control used at the same concentration and conditions as the primary antibody. Unlabelled sample (blue line) was also used as a control.

Acquisition of >5000 events were collected using a 50 mW Blue laser (488nm) and 525/40 bandpass filter.

This antibody gave a positive signal in HL-60 Fixed with 80% methanol (5 min) / permeabilised with 0.1% PBS-Triton X-100 for 15 min under the same conditions.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.