abcam

ab236218

Anti-Myeloperoxidase antibody [SP72] - BSA and Azide free

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	SP72
Purification technique	Affinity purification Protein A/G
Epitope	C terminus
Concentration	1.033 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	Purified from TCS by protein A/G.

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	-
Notes	30 minutes at room temperature. Boil tissue section in 10mM citrate buffer, pH 6.0 for 10 minutes followed by cooling at room temperature for 20 minutes.

ICC/IF

Not recommended

Species	Human
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

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	+4°C
Storage information	Do Not Freeze

Notes

ab236218 is the carrier-free version of ab93665.
What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Conjugation ready
Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.

Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with 1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

Compatibility
This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc.

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

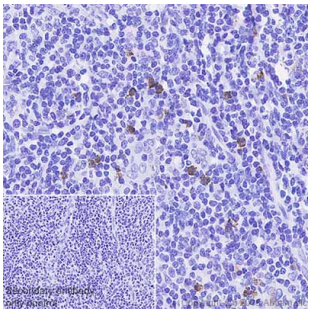
We do not recommend this combination. It is not covered by our product promise.

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.

5 product images

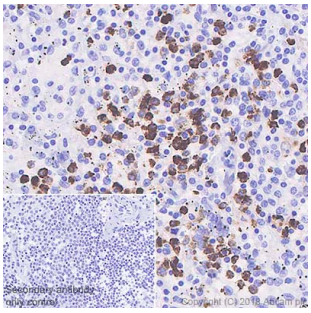


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Myeloperoxidase antibody [SP72] - BSA and Azide free (ab236218)

Myeloperoxidase Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Myeloperoxidase antibody

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of Human tonsil tissue sections labeling Myeloperoxidase with ab93665 at 1:100 dilution (2.49 µg/ml). Heat mediated antigen retrieval with sodium citrate buffer (pH 6.0, epitope retrieval solution 1) for 10mins. Rabbit specific IHC polymer detection kit HRP/DAB (ab209101) was used as the secondary antibody. Hematoxylin was used as a counterstain. Sporadically positive staining on human tonsil, performed on a Leica Biosystems BOND™ RX instrument.
The section was incubated with ab93665 for 30 mins at room temperature.

This image was generated using ab93665, the same clone, but with a different buffer formulation.

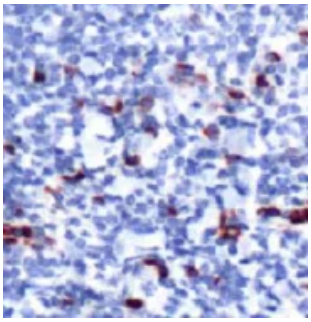


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Myeloperoxidase antibody [SP72] - BSA and Azide free (ab236218)

Myeloperoxidase Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Myeloperoxidase antibody

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of Human spleen tissue sections labeling Myeloperoxidase with ab93665 at 1:100 dilution (2.49 µg/ml). Heat mediated antigen retrieval with sodium citrate buffer (pH 6.0, epitope retrieval solution 1) for 10mins. Rabbit specific IHC polymer detection kit HRP/DAB (ab209101) was used as the secondary antibody. Hematoxylin was used as a counterstain. Positive staining on human spleen, performed on a Leica Biosystems BOND™ RX instrument.
The section was incubated with ab93665 for 30 mins at room temperature.

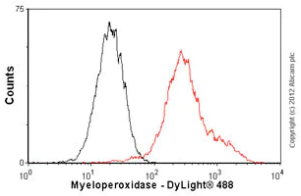
This image was generated using ab93665, the same clone, but with a different buffer formulation.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Myeloperoxidase antibody [SP72] - BSA and Azide free (ab236218)

Myeloperoxidase Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Myeloperoxidase antibody

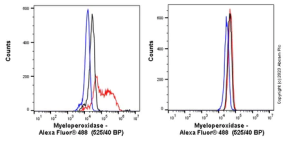
Formalin-fixed, paraffin-embedded human tonsil tissue stained for Myeloperoxidase using ab236218 at 1/100 dilution in immunohistochemical analysis.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab93665).



Flow Cytometry (Intracellular) - Anti-Myeloperoxidase antibody [SP72] - BSA and Azide free (ab236218)

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

Overlay histogram showing HeLa cells stained with ab93665 (red line). The cells were fixed with 80% methanol (5 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab93665, 1/100 dilution) for 30 min at 22°C. The secondary antibody used was DyLight® 488 goat anti-rabbit IgG (H+L) (ab96899) at 1/500 dilution for 30 min at 22°C. Isotype control antibody (black line) was rabbit IgG (monoclonal) (1µg/1x10^6 cells) used under the same conditions. Acquisition of >5,000 events was performed.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab93665).



Flow Cytometry (Intracellular) - Anti-Myeloperoxidase antibody [SP72] - BSA and Azide free (ab236218)

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

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab93665).

Flow cytometry overlay histogram showing left HL-60 positive cells and right negative HeLa stained with ab93665 (red line). The cells were fixed with 80% methanol (5 min) and then permeabilised with 0.1% PBS-Triton X-100 for 15 min. The cells were then incubated in 1x PBS containing 10% normal goat serum to block non-specific protein-protein interaction followed by the antibody (ab93665) (1x 106 in 100µl at 0.2µg/ml (1/10750)) for 30min at 22°C.

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

Isotype control antibody (black line) was Recombinant Rabbit IgG, monoclonal [EPR25A] - 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 4% formaldehyde (10 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'.