PRODUCT INFORMATION

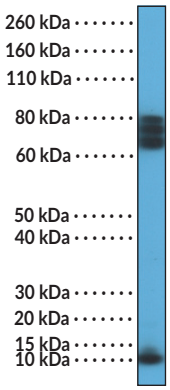
Myeloperoxidase (human) Rabbit Monoclonal Antibody (Clone RM407)

Item No. 32333

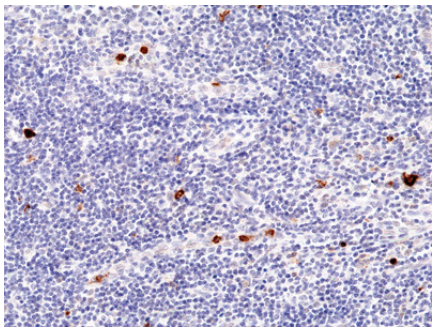
Overview and Properties

Contents:	This vial contains 100 µl of protein A-affinity purified monoclonal antibody.
Synonym:	MPO
Immunogen:	Peptide corresponding to the internal region of the human MPO light chain
Cross Reactivity:	(+) MPO
Species Reactivity:	(+) Human
Form:	Liquid
Storage:	-20°C (as supplied)
Stability:	≥1 year
Storage Buffer:	PBS with 50% glycerol, 1% BSA, and 0.09% sodium azide
Clone:	RM407
Host:	Rabbit
Isotype:	IgG
Applications:	Immunohistochemistry (IHC) and Western blot (WB); the recommended starting dilution is 1:100-1:200 for IHC and 1:200-1:500 for WB. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

Images



WB of HL60 cell lysate using Myeloperoxidase (human) Rabbit Monoclonal Antibody (Clone RM407) at a dilution of 1:200.



Immunohistochemical staining of formalin-fixed and paraffin-embedded human tonsil tissue using Myeloperoxidase (human) Rabbit Monoclonal Antibody (Clone RM407) at a 1:100 dilution.

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Description

Myeloperoxidase (MPO) is a heme-containing enzyme and the most abundant protein in polymorphonuclear leukocytes (PMNs).[1] It is composed of two subunits linked by a disulfide bridge with each subunit containing a light and a heavy polypeptide chain. It can oxidize a variety of substrates and catalyzes the formation of highly reactive (pseudo)hypohalous acids and radicals including hypochlorous acid. MPO is stored in azurophilic granules of PMNs and is released from activated or necrotic PMNs, after which it can bind to and modify acidic serum proteins, as well as recruit additional PMNs. MPO also has roles in PMN apoptosis and antimicrobial defense systems, including neutrophil extracellular traps (NETs).[1-3] *MPO*-deficient mice exhibit reduced survival in a polymicrobial sepsis model, increased susceptibility to experimental autoimmune encephalomyelitis (EAE), and increased atherosclerosis in mice also deficient in the LDL receptor and fed an atherogenic diet.[1,4,5] Cayman's Myeloperoxidase (human) Rabbit Monoclonal Antibody (Clone RM407) can be used for immunohistochemistry (IHC) and Western blot (WB) applications.

References

1. Arnhold, J. and Flemmig, J. Human myeloperoxidase in innate and acquired immunity. *Arch. Biochem. Biophys.* **500(1)**, 92-106 (2010).
2. Metzler, K.D., Fuchs, T.A., Nauseef, W.M., *et al.* Myeloperoxidase is required for neutrophil extracellular trap formation: Implications for innate immunity. *Blood* **117(3)**, 953-959 (2011).
3. Urban, C.F., Ermert, D., Schmid, M., *et al.* Neutrophil extracellular traps contain calprotectin, a cytosolic protein complex involved in host defense against *Candida albicans*. *PLoS Pathogens* **5(10)**, e1000639 (2009).
4. Brennan, M., Gaur, A., Pahuja, A., *et al.* Mice lacking myeloperoxidase are more susceptible to experimental autoimmune encephalomyelitis. *J. Neuroimmunol.* **112(1-2)**, 97-105 (2001).
5. Brennan, M.L., Anderson, M.M., Shih, D.M., *et al.* Increased atherosclerosis in myeloperoxidase-deficient mice. *J. Clin. Invest.* **107(4)**, 419-430 (2001).

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