PRODUCT INFORMATION

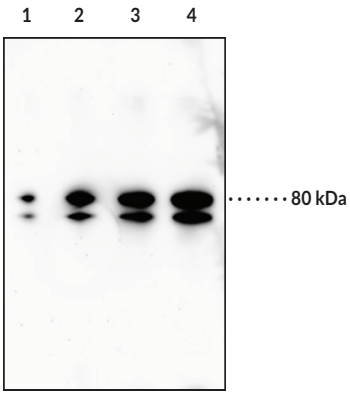
Myeloperoxidase (mouse) Polyclonal Antibody

Item No. 20493

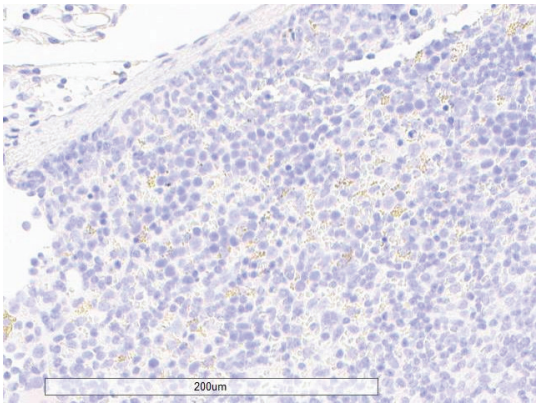
Overview and Properties

Contents: This vial contains 500 µl of protein A-purified polyclonal antibody.
Synonym: MPO
Immunogen: Full-length recombinant mouse MPO
Species Reactivity: (+) Mouse; other species not tested
Uniprot No.: P11247
Form: Liquid
Storage: -20°C (as supplied)
Stability: ≥3 years
Storage Buffer: TBS, pH 7.4, with 50% glycerol, 0.1% BSA, and 0.02% sodium azide
Host: Rabbit
Applications: ELISA, immunohistochemistry (IHC), and Western blot (WB); the recommended starting dilution for IHC and WB is 1:200 and 1:500 for ELISA. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

Images



Lane 1: MPO (mouse recombinant) (10 ng)
Lane 2: MPO (mouse recombinant) (25 ng)
Lane 3: MPO (mouse recombinant) (50 ng)
Lane 4: MPO (mouse recombinant) (100 ng)



Immunohistochemistry analysis of formalin-fixed, paraffin-embedded (FFPE) mouse spleen tissue after heat induced antigen retrieval in pH 6.0 citrate buffer. After incubation with Myeloperoxidase (mouse) Polyclonal Antibody (Item No. 20493) at a 1:200 dilution, slides were incubated with biotinylated secondary antibody, followed by alkaline phosphatase-streptavidin and chromogen (DAB).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM

PRODUCT INFORMATION

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 (mouse) Polyclonal Antibody can be used for ELISA, immunohistochemistry (IHC), and Western blot (WB) applications. The antibody recognizes MPO at approximately 80 kDa from mouse samples.

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)**, 1-18 (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).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM