SANTA CRUZ BIOTECHNOLOGY, INC.

MPO light chain (C-3): sc-390109

BACKGROUND

The heme protein myeloperoxidase (MPO) is a major component of azurophilic granules of neutrophils and polymorphonuclear leukocytes. Optimal oxygen-dependent microbiocidal activity depends on MPO as the critical enzyme for the generation of hypochlorous acid and other toxic oxygen products. The MPO precursor is synthesized during the promyelocytic stage of myeloid differentiation and is subsequently processed and transported intracellularly to the lysosomes. The precursor undergoes cotranslational N-linked glycosylation to produce a glycoprotein. Glucosidases in the endoplasmic reticulum (ER) or early *cis* Golgi convert the pro-MPO to a form which is sorted into a prelysosomal compartment, which undergoes final proteolytic maturation to native MPO, a pair of heavy-light protomers. In normal neutrophils, MPO is expressed as a dimer. Calreticulin, a calcium-binding protein residing in the ER, interacts specifically with fully glycosylated apopro-MPO. iMPO mRNA is abundant in human promyelocytic HL-60 and mouse myeloid leukemia NFS-60 cells. MPO is expressed at high levels in circulating neutrophils and monocytes but is not detectable in microglia, brain-specific macrophages or normal brain tissue.

CHROMOSOMAL LOCATION

Genetic locus: Mpo (mouse) mapping to 11 C.

SOURCE

MPO light chain (C-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 221-259 within an internal region of MPO of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

MPO light chain (C-3) is available conjugated to agarose (sc-390109 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-390109 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390109 PE), fluorescein (sc-390109 FITC), Alexa Fluor® 488 (sc-390109 AF488), Alexa Fluor® 546 (sc-390109 AF546), Alexa Fluor® 594 (sc-390109 AF594) or Alexa Fluor® 647 (sc-390109 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390109 AF680) or Alexa Fluor® 790 (sc-390109 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-390109 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

APPLICATIONS

MPO light chain (C-3) is recommended for detection of MPO light chain of mouse and rat origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

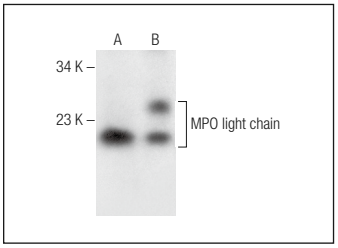
Suitable for use as control antibody for MPO siRNA (m): sc-43942, MPO shRNA Plasmid (m): sc-43942-SH and MPO shRNA (m) Lentiviral Particles: sc-43942-V.

Molecular Weight of MPO light chain: 15 kDa.

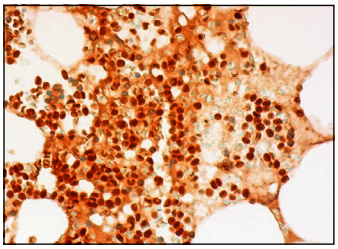
Molecular Weight of mature MPO: 84 kDa.

Molecular Weight of MPO dimer: 140 kDa.

DATA



MPO light chain (C-3): sc-390109. Western blot analysis of MPO light chain expression in HL-60 (**A**) and mouse PBL (**B**) whole cell lysates.



MPO light chain (C-3): sc-390109. Immunoperoxidase staining of formalin fixed, paraffin-embedded human bone marrow tissue showing nuclear and cytoplasmic staining of hematopoietic cells.

SELECT PRODUCT CITATIONS

1. Wahedi, H.M., et al. 2017. Aloesin from *Aloe vera* accelerates skin wound healing by modulating MAPK/Rho and Smad signaling pathways *in vitro* and *in vivo*. Phytomedicine 28: 19-26.
2. Yan, Y., et al. 2019. Kindlin-3 in platelets and myeloid cells differentially regulates deep vein thrombosis in mice. Aging 11: 6951-6959.
3. Yan, J., et al. 2020. CCR1 activation promotes neuroinflammation through CCR1/TPR1/ERK1/2 signaling pathway after intracerebral hemorrhage in mice. Neurotherapeutics 17: 1170-1183.
4. Siolas, D., et al. 2021. Gain-of-function $p53^{R172H}$ mutation drives accumulation of neutrophils in pancreatic tumors, promoting resistance to immunotherapy. Cell Rep. 36: 109578.
5. Hu, J., et al. 2022. Hydroxychloroquine attenuates neuroinflammation following traumatic brain injury by regulating the TLR4/NFκB signaling pathway. J. Neuroinflammation 19: 71.

RESEARCH USE

For research use only, not for use in diagnostic procedures.