SANTA CRUZ BIOTECHNOLOGY, INC.

MPO heavy chain (C-16)-R: sc-16128-R

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 (human) mapping to 17q22; Mpo (mouse) mapping to 11 C.

SOURCE

MPO heavy chain (C-16)-R is an affinity purified rabbit polyclonal antibody raised against a peptide mapping near the C-terminus of MPO of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-16128 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

MPO heavy chain (C-16)-R is recommended for detection of MPO heavy chain of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

MPO heavy chain (C-16)-R is also recommended for detection of MPO heavy chain in additional species, including canine and bovine.

Suitable for use as control antibody for MPO siRNA (h): sc-43941, MPO siRNA (m): sc-43942, MPO shRNA Plasmid (h): sc-43941-SH, MPO shRNA Plasmid (m): sc-43942-SH, MPO shRNA (h) Lentiviral Particles: sc-43941-V and MPO shRNA (m) Lentiviral Particles: sc-43942-V.

Molecular Weight of MPO heavy-light protomer: 72 kDa.

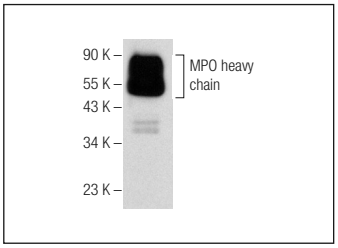
Molecular Weight of MPO dimer: 140 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, HL-60 whole cell lysate: sc-2209 or SK-N-SH cell lysate: sc-2410.

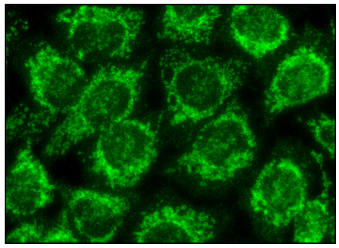
STORAGE

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

DATA



MPO heavy chain (C-16)-R: sc-16128-R. Western blot analysis of MPO heavy chain expression in human PBL whole cell lysate.



MPO heavy chain (C-16)-R: sc-16128-R. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Kusmartsev, S., et al. 2004. Antigen-specific inhibition of $CD8^+$ T cell response by immature myeloid cells in cancer is mediated by reactive oxygen species. J. Immunol. 172: 989-999.
2. Singer, M., et al. 2004. IL-8 is a key chemokine regulating neutrophil recruitment in a new mouse model of Shigella-induced colitis. J. Immunol. 173: 4197-4206.
3. Shimamura, N., et al. 2006. Inhibition of integrin αV/β3 ameliorates focal cerebral ischemic damage in the rat middle cerebral artery occlusion model. Stroke 37: 1902-1909.
4. De La Luz Sierra, M. 2007. Transcription factor Gfi-1 induced by G-CSF is a negative regulator of CXCR4 in myeloid cells. Blood 110: 2276-2285.
5. Bunbury, A., et al. 2009. Functional analysis of monocyte MHC class II compartments. FASEB J. 23: 164-171.
6. Zhou, X., et al. 2011. Postinfarction healing dynamics in the mechanically unloaded rat left ventricle. Am. J. Physiol. Heart Circ. Physiol. 300: H1863-H1874.
7. Singer, M., et al. 2011. Arsenic trioxide reduces 2,4,6-trinitrobenzene sulfonic acid-induced murine colitis via nuclear factor-κB down-regulation and caspase-3 activation. Innate Immun. 17: 365-374.
8. Ayata, C.K., et al. 2012. Purinergic $P2Y_2$ receptors promote neutrophil infiltration and hepatocyte death in mice with acute liver injury. Gastroenterology 143: 1620-1629.e4.
9. Hawkins, K.E., et al. 2013. Neurovascular protection by post-ischemic intravenous injections of the lipoxin A4 receptor agonist, BML-111, in a rat model of ischemic stroke. J. Neurochem. E-published.

RESEARCH USE

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