

# MPO (2C7): sc-59600

## BACKGROUND

The heme protein myeloperoxidase (MPO) is a major component of azurophilic granules of neutrophils and polymorphonuclear leukocytes. Optimal oxygen-dependent microbicidal 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.

## SOURCE

MPO (2C7) is a mouse monoclonal antibody raised against MPO of human origin.

## PRODUCT

Each vial contains 100 µg IgG<sub>1</sub> in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

MPO (2C7) is available conjugated either phycoerythrin (sc-59600 PE, 100 tests in 2 ml) or fluorescein (sc-59600 FITC, 100 tests in 2 ml), for IF, IHC(P) and FCM.

## APPLICATIONS

MPO (2C7) is recommended for detection of MPO of 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10<sup>6</sup> cells).

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

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

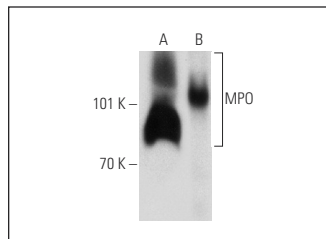
Molecular Weight of MPO dimer: 140 kDa.

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

## STORAGE

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

## DATA



MPO (2C7): sc-59600. Western blot analysis of MPO expression in HL-60 (A) and human PBL (B) whole cell lysates.

## SELECT PRODUCT CITATIONS

1. Luo, Y.H., et al. 2007. Streptococcal pyrogenic exotoxin B antibodies in a mouse model of glomerulonephritis. *Kidney Int.* 72: 716-724.
2. Zulli, A., et al. 2009. High dietary taurine reduces apoptosis and atherosclerosis in the left main coronary artery: association with reduced CCAAT/enhancer binding protein homologous protein and total plasma homocysteine but not lipidemia. *Hypertension* 53: 1017-1022.
3. Wei, H., et al. 2014. Staphylococcal enterotoxin burden determines the type of T helper cell response and pathology of the maxillary sinus mucosa in rabbits. *Int. Immunopharmacol.* 23: 633-641.
4. Yang, Y., et al. 2015.  $\beta$ -Arrestin1 enhances hepatocellular carcinogenesis through inflammation-mediated Akt signalling. *Nat. Commun.* 6: 7369.
5. Di Paola, R., et al. 2016. Co-micronized palmitoylethanolamide/polydatin treatment causes endometriotic lesion regression in a rodent model of surgically induced endometriosis. *Front. Pharmacol.* E-published.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

### CONJUGATES

See **MPO light chain (A-5): sc-365436** for MPO light chain antibody conjugates, including AC, HRP, FITC, PE, Alexa Fluor<sup>®</sup> 488 and Alexa Fluor<sup>®</sup> 647.