SANTA CRUZ BIOTECHNOLOGY, INC.

MPO (266-6K1): sc-52707

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.

SOURCE

MPO (266-6K1) is a mouse monoclonal antibody raised against a synthetic peptide corresponding to an epitope near the C-terminus of MPO of human origin.

PRODUCT

Each vial contains 100 µg IgG_1 in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

MPO (266-6K1) 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)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

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.

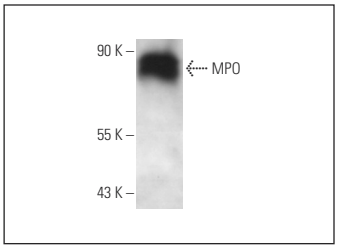
STORAGE

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

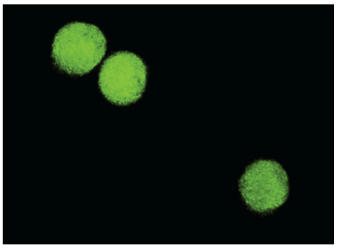
RESEARCH USE

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

DATA



MPO (266-6K1): sc-52707. Western blot analysis of MPO expression in HL-60 whole cell lysate.



MPO (266-6K1): sc-52707. Immunofluorescence staining of methanol-fixed HL-60 cells showing nuclear localization.

SELECT PRODUCT CITATIONS

1. La Rocca, G., et al. 2009. Oxidative stress induces myeloperoxidase expression in endocardial endothelial cells from patients with chronic heart failure. Basic Res. Cardiol. 104: 307-320.
2. Mohammed, B.M., et al. 2013. Vitamin C: a novel regulator of neutrophil extracellular trap formation. Nutrients 5: 3131-3151.
3. Akazawa, Y., et al. 2015. BH3-only protein Bim is associated with the degree of *Helicobacter pylori*-induced gastritis and is localized to the mitochondria of inflammatory cells in the gastric mucosa. Int. J. Med. Microbiol. 305: 553-562.
4. Arelaki, S., et al. 2016. Gradient infiltration of neutrophil extracellular traps in colon cancer and evidence for their involvement in tumour growth. PLoS ONE 11: e0154484.
5. Chen, S.T., et al. 2017. CLEC5A is a critical receptor in innate immunity against *Listeria* infection. Nat. Commun. 8: 299.
6. Wang, W., et al. 2018. Increased levels of neutrophil extracellular trap remnants in the serum of patients with rheumatoid arthritis. Int. J. Rheum. Dis. 21: 415-421.
7. Linnemann, C., et al. 2020. Bio-impedance measurement allows displaying the early stages of neutrophil extracellular traps. EXCLI J. 19: 1481-1495.
8. Liao, T.L., et al. 2021. MicroRNA-223 inhibits neutrophil extracellular traps formation through regulating calcium influx and small extracellular vesicles transmission. Sci. Rep. 11: 15676.
9. Chrysanthopoulou, A., et al. 2021. Angiotensin II triggers release of neutrophil extracellular traps, linking thromboinflammation with essential hypertension. JCI Insight 6: e148668.

CONJUGATES

See **MPO light chain (A-5): sc-365436** for MPO antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.