Human Myeloperoxidase Polyclonal Antibody

Antigen Affinity-Purified Anti-Human Myeloperoxidase Rabbit Antibody
Catalog Number: GR126062

Background

Myeloperoxidase (MPO) is a member of the XPO subfamily of peroxidase that in humans is encoded by the *MPO* gene on chromosome 17. MPO is most abundantly expressed in neutrophil granulocytes and is a lysosomal protein stored in azurophilic granules of the neutrophil and released into the extracellular space during degranulation.[1] It produces hypohalous acids to carry out their antimicrobial activity. It requires heme as a cofactor. Furthermore, it oxidizes tyrosine to tyrosyl radical using hydrogen peroxide as an oxidizing agent.[2] Hypochlorous acid and tyrosyl radical are cytotoxic, so they are used by the neutrophil to kill bacteria and other pathogens.[3] However, this hypochlorous acid may also cause oxidative damage in host tissue. Moreover, MPO oxidation of apoA-I reduces HDL-mediated inhibition of apoptosis and inflammation.[4] In addition, MPO mediates protein nitrosylation and the formation of 3-chlorotyrosine and dityrosine crosslinks. Recent studies have reported an association between elevated myeloperoxidase levels and the severity of coronary artery disease.[5] And Heslop et al. reported that elevated MPO levels more than doubled might increase the risk for cardiovascular mortality over a 13-year period.[6] It has also been suggested that myeloperoxidase plays a significant role in the development of the atherosclerotic lesion and rendering plaques unstable.[7] MPO could serve as a sensitive predictor for myocardial infarction in patients presenting with chest pain.[8] The 2010 Heslop et al. study reported that measuring both MPO and CRP provided added benefit for risk prediction than just measuring CRP alone.[6]

References

1. Kinkade JM, et al. (1983). Biochem Biophys Res Communications. 114 (1): 296–303.
2. Heinecke JW, et al. (1993). The Journal of Clinical Investigation. 91 (6): 2866–72.
3. Hampton MB, et al. (1998). Blood. 92 (9): 3007–17.
4. Shao B, et al. (2010). Chemical Research in Toxicology. 23 (3): 447–54.
5. Zhang R, et al. (2001). JAMA. 286 (17): 2136–42.
6. Heslop CL, e tal. (2010). J American College of Cardiology. 55 (11): 1102–9.
7. Nicholls SJ, et al. (2005). Arteriosclerosis,Thrombosis and Vascular Bio. 25: 1102–11.
8. Brennan ML, et al. (2003). The New England Journal of Medicine. 349 (17): 1595–604.

Human Myeloperoxidase Polyclonal Antibody

Antigen Affinity-Purified Anti-Human Myeloperoxidase Rabbit Antibody
Catalog Number: GR126062

Description

Species reactivity: Human
Specificity: Detects human myeloperoxidase in direct or indirect ELISAs and Western blots.
Source: Polyclonal rabbit IgG
Purification: Antigen Affinity purified
Immunogen: *E. coli* derived recombinant human myeloperoxidase, Met 251-Asp 566, and Accession # P05164.
Endotoxin Level: <0.10 EU per 1 μg of the antibody by the LAL method.
Formulation: lyophilized from a solution containing PBS and trehalose (100 μg/ml).

Application

Reconstitution: reconstitute at 0.2 mg/ml in sterile PBS
Recommended concentration:
Western blot: >0.1 μg/ml
Immunocytochemistry: 5-15 μg/ml
ELISA: 0.2-0.6 μg/ml

Stability & Storage

Use a manual defrost freezer and avoid repeated freeze-thaw cycles.

- 12 months at -20°C as supplied.
- 1 month after reconstitution at 4 °C, from date of receipt.
- 6 months after reconstitution at -20°C to -70°C from date of receipt.

DECLARATION

THIS REAGENT IS FOR IN VITRO LABORATORY TESTING AND RESEARCH USE ONLY. DO NOT USE IT FOR CLINICAL DIAGNOSTICS. DO NOT USE OR INJECT IT IN HUMANS AND ANIMALS.

FOR LABORATORY RESEARCH USE ONLY
NOT FOR USE IN HUMANS AND ANIMALS