Description: An enzyme released by white blood cells during inflammation.
Clinical Use: It is associated with coronary artery disease and can help in risk stratification for acute coronary syndrome
Myeloperoxidase (MPO) is a hemoprotein found in the azurophilic granules of neutrophils and within the lysosomes of monocytes. This enzyme exhibits significant antibacterial activity and is distinguished by its capacity to produce powerful bactericidal agents, including hypochlorous acid (HOCl), through the reaction of hydrogen peroxide with the halide chloride.[1,2,3]

MPO is involved in the modulation of vascular function, particularly in relation to chronic vascular conditions such as atherosclerosis. Within the extracellular matrix (ECM), MPO acts as a nitric oxide (NO) scavenger, depleting NO and resulting in compromised endothelial relaxation. The presence of MPO and its oxidative byproducts in atherothrombotic tissue facilitates lipid peroxidation and the transformation of LDL into a more atherogenic form that is readily taken up by cells. Additionally, MPO selectively alters Apolipoprotein A-I (apoA-I), leading to the formation of dysfunctional HDL particles that are more prone to degradation and diminishing apoA-I's capacity to facilitate cholesterol efflux. Furthermore, elevated levels of MPO and its oxidative derivatives in the bloodstream are linked to a heightened risk of cardiovascular events. Despite this, the use of MPO as a marker for cardiovascular risk has not gained the same level of acceptance as the more widely recognized high-sensitivity C-reactive protein assay.[4,5]

## References

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