Recombinant Human Myeloperoxidase/MPO Protein (His Tag)

Catalog Number: PDMH100014

Note: *Centrifuge before opening to ensure complete recovery of vial contents.*

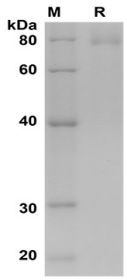
Description

Species	Human
Source	HEK293 Cells-derived Human Myeloperoxidase;MPO protein Ala49-Ser745, with an C-terminal His
Calculated MW	80.3 kDa
Observed MW	80 kDa
Accession	P05164
Bio-activity	Not validated for activity

Properties

Purity	> 90% as determined by reducing SDS-PAGE.
Endotoxin	< 1.0 EU/mg of the protein as determined by the LAL method
Storage	Generally, lyophilized proteins are stable for up to 12 months when stored at -20 to -80 ℃. Reconstituted protein solution can be stored at 4-8℃ for 2-7 days. Aliquots of reconstituted samples are stable at < -20℃ for 3 months.
Shipping	This product is provided as lyophilized powder which is shipped with ice packs.
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with 5% Trehalose and 5% Mannitol.
Reconstitution	It is recommended that sterile water be added to the vial to prepare a stock solution of 0.5 mg/mL. Concentration is measured by UV-Vis.

Data



SDS-PAGE analysis of Human Myeloperoxidase/MPO proteins, 2μg/lane of Recombinant Human Myeloperoxidase/MPO proteins was resolved with SDS-PAGE under reducing conditions, showing bands at 80 KD.

Background

Myeloperoxidase (MPO) is a heme-containing enzyme belonging to the XPO subfamily of peroxidases. It is an abundant neutrophil and monocyte glycoprotein that catalyzes the hydrogen peroxide-dependent conversion of chloride, bromide, and iodide to multiple reactive species. Post-translational processing of MPO involves the insertion of a heme moiety and the proteolytic removal of both a propeptide and a 6 aa internal peptide. This results in a disulfide-linked dimer composed of a 60 kDa heavy and 12 kDa light chain that associate into a 150 kDa enzymatically active tetramer. The tetramer contains two heme groups and one disulfide bond between the heavy chains. Alternate splicing generates two additional isoforms of MPO, one with a 32 aa insertion in the light chain, and another with a deletion of the signal sequence and part of the propeptide. Human and mouse MPO share 87% aa sequence identity. MPO activity results in protein nitrosylation and the formation of 3-chlorotyrosine and dityrosine crosslinks. MPO is also associated with a variety of other diseases, and inhibits vasodilation in inflammation by depleting the levels of NO. Serum albumin functions as a carrier protein during MPO movement to the basolateral side of epithelial cells. MPO is stored in neutrophil azurophilic granules. Upon cellular activation, it is deposited into pathogen-containing phagosomes.

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