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Recombinant Human MPO

Catalog#:P00414 Derived from Human Cells

DESCRIPTION	Recombinant Human Myeloperoxidase is produced by our Mammalian expression system and the target gene encoding Ala49-Ser745 is expressed with a 10His tag at the C-terminus. **Accession#**: P05164 **Known as**: Myeloperoxidase; MPO
FORMULATION	Lyophilized from a 0.2 μm filtered solution of 20mM Tris, 150mM NaCl, pH 8.0.
SHIPPING	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature listed below.
STORAGE	Lyophilized protein should be stored at<-20°C, though stable at room temperature for 3 weeks. Reconstituted protein solution can be stored at 4-7°C for 2-7 days. Aliquots of reconstituted samples are stable at < -20°C for 3 months.
RECONSTITUTION	*Always centrifuge tubes before opening. Do not mix by vortex or pipetting.* *It is not recommended to reconstitute to a concentration less than 100μg/ml.* Dissolve the lyophilized protein in distilled water. Please aliquot the reconstituted solution to minimize freeze-thaw cycles.
QUALITY CONTROL	**Mol Mass**:80.3kDa **AP Mol Mass**:85-95kDa, reducing conditions. **Purity**: Greater than 95% as determined by reducing SDS-PAGE. **Endotoxin**: Less than 0.1 ng/μg (1 EU/μg) as determined by LAL test.
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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