Recombinant Protein Technical Manual

Recombinant Human Myeloperoxidase/MPO Protein (His Tag)

RPES5028

Product Data:

Product SKU: RPES5028

Size: 10µg

Species: Human

Expression host: Human Cells

Uniprot: P05164

Protein Information:

Molecular Mass: 80.3 kDa

AP Molecular Mass: 85-95 kDa

Tag: C0His

Bio-activity:

Purity: > 90 % as determined by reducing SDS-PAGE.

Endotoxin: < 1.0 EU per µg as determined by the LAL method.

Storage: Lyophilized proteins are stable for up to 12 months when stored at -20 to -80°C. 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 of 20mM Tris, 150mM NaCl, pH8.0

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Reconstitution: Please refer to the printed manual for detailed information.

Application:

Synonyms: Myeloperoxidase; MPO

Immunogen Information:

Sequence: Ala49-Ser745

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.