

Myeloperoxidase/MPO Protein, Human (HEK293, C-His)

Cat. No.:	HY-P70255A
Synonyms:	rHuMyeloperoxidase/MPO, His; Myeloperoxidase; MPO
Species:	Human
Source:	HEK293
Accession:	P05164 (A49-S745)
Gene ID:	4353
Molecular Weight:	approximately 95 kDa

PROPERTIES

AA Sequence

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A A P A V L G E V D   T S L V L S S M E E   A K Q L V D K A Y K   E R R E S I K Q R L
R S G S A S P M E L   L S Y F K Q P V A A   T R T A V R A A D Y   L H V A L D L L E R
K L R S L W R R P F   N V T D V L T P A Q   L N V L S K S S G C   A Y Q D V G V T C P
E Q D K Y R T I T G   M C N N R R S P T L   G A S N R A F V R W   L P A E Y E D G F S
L P Y G W T P G V K   R N G F P V A L A R   A V S N E I V R F P   T D Q L T P D Q E R
S L M F M Q W G Q L   L D H D L D F T P E   P A A R A S F V T G   V N C E T S C V Q Q
P P C F P L K I P P   N D P R I K N Q A D   C I P F F R S C P A   C P G S N I T I R N
Q I N A L T S F V D   A S M V Y G S E E P   L A R N L R N M S N   Q L G L L A V N Q R
F Q D N G R A L L P   F D N L H D D P C L   L T N R S A R I P C   F L A G D T R S S E
M P E L T S M H T L   L L R E H N R L A T   E L K S L N P R W D   G E R L Y Q E A R K
I V G A M V Q I I T   Y R D Y L P L V L G   P T A M R K Y L P T   Y R S Y N D S V D P
R I A N V F T N A F   R Y G H T L I Q P F   M F R L D N R Y Q P   M E P N P R V P L S
R V F F A S W R V V   L E G G I D P I L R   G L M A T P A K L N   R Q N Q I A V D E I
R E R L F E Q V M R   I G L D L P A L N M   Q R S R D H G L P G   Y N A W R R F C G L
P Q P E T V G Q L G   T V L R N L K L A R   K L M E Q Y G T P N   N I D I W M G G V S
E P L K R K G R V G   P L L A C I I G T Q   F R K L R D G D R F   W W E N E G V F S M
Q Q R Q A L A Q I S   L P R I I C D N T G   I T T V S K N N I F   M S N S Y P R D F V
N C S T L P A L N L   A S W R E A S

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Biological Activity Measured by its ability to oxidize guaiacol in the presence of hydrogen peroxide. The specific activity is 2.5×10^7 pmol/min/ μ g, as measured under the described conditions.

Appearance Lyophilized powder.

Formulation Lyophilized from a 0.2 μ m filtered solution of 50 mM Tris-HCL, 300 mM NaCl, pH 7.4.

Endotoxin Level <1 EU/ μ g, determined by LAL method.

Reconstitution It is not recommended to reconstitute to a concentration less than 100 μ g/mL in ddH₂O. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).

Storage & Stability

Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.

Shipping

Room temperature in continental US; may vary elsewhere.

DESCRIPTION**Background**

Myeloperoxidase (MPO) Protein constitutes a crucial component of the host defense system within polymorphonuclear leukocytes, playing a pivotal role in microbicidal activity against a diverse spectrum of organisms. Upon stimulation of polymorphonuclear leukocytes, MPO catalyzes the generation of hypohalous acids, predominantly hypochlorous acid under physiological conditions, along with other toxic intermediates that significantly enhance microbicidal activity in these cells. This enzymatic activity serves as a potent defense mechanism, contributing to the host's ability to combat various pathogens. Furthermore, MPO is implicated in the proteolytic cleavage of alpha-1-microglobulin, generating t-alpha-1-microglobulin, a molecule known for its capacity to inhibit the oxidation of low-density lipoprotein particles and thereby mitigate vascular damage. These multifaceted functions underscore the critical role of MPO in immune defense and vascular protection.

Caution: Product has not been fully validated for medical applications. For research use only.

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