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Recombinant Human/Mouse/Rat HMGB1 Box1 Protein

Catalog No.: RP02132 Recombinant

Sequence Information

Species	Gene ID	Swiss Prot
Human/Mouse/Rat	3146/15289/25459	P09429/P63158/P63159

Tags
No tag

Synonyms
High Mobility Group Protein B1; High Mobility Group Protein 1; HMG-1; HMGB1; HMG1; BoxA

Product Information

Source	Purification
E.coli	≥ 95 % as determined by SDS-PAGE.

Calculated MW	Observed MW
10.4 kDa	14 kDa

Endotoxin
< 1 EU/μg of the protein by LAL method.

Formulation
Lyophilized from a 0.22 μm filtered solution of 50 mM HEPES, 500 mM NaCl, 0.5 mM DTT, pH 7.9. Contact us for customized product form or formulation.

Reconstitution
Please contact us for reconstitution instructions.

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Background

High-mobility group box 1 protein (HMGB1), also known as HMG-1 or amphoterin previously, is a member of the HMGB family consisting of three members, HMGB1, HMGB2, and HMGB3. HMGB1 is a DNA-binding nuclear protein, released actively following cytokine stimulation as well as passively during cell death. It is the prototypic damage-associated molecular pattern (DAMP) molecule and has been implicated in several inflammatory disorders. HMGB1 signals via the receptor for advanced glycation end-product (RAGE) and members of the toll-like receptor (TLR) family. The most prominent HMGB1 protein and mRNA expression arthritis are present in pannus regions, where synovial tissue invades articular cartilage and bone. HMGB1 promotes the activity of proteolytic enzymes, and osteoclasts need HMGB1 for functional maturation. As a non-histone nuclear protein, HMGB1 has a dual function. Inside the cell, HMGB1 binds DNA, regulating transcription, and determining chromosomal architecture. Outside the cell, HMGB1 can serve as an alarmin to activate the innate system and mediate a wide range of physiological and pathological responses. Extracellular HMGB1 represents an optimal " necrotic marker" selected by the innate immune system to recognize tissue damage and initiate reparative responses. However, extracellular HMGB1 also acts as a potent pro-inflammatory cytokine that contributes to the pathogenesis of diverse inflammatory and infectious disorders. HMGB1 has been successfully therapeutically targeted in multiple preclinical models of infectious and sterile diseases including arthritis. As shown in studies on patients as well as animal models, HMGB1 can play an important role in the pathogenesis of the rheumatic disease, including rheumatoid arthritis, systemic lupus erythematosus, and polymyositis among others. Besides, enhanced postmyocardial infarction remodeling in type 1 diabetes mellitus was partially mediated by HMGB1 activation.

Basic Information

Description
Recombinant Human/Mouse/Rat HMGB1 Box1 Protein is produced by E.coli expression system. The target protein is expressed with sequence (Met1-Phe89) of Human/Mouse/Rat HMGB1 Box1 (Accession #P09429/P63158/P63159) fused with no tag.

Bio-Activity

Storage
Store at -20℃.Store the lyophilized protein at -20℃ to -80 ℃ up to 1 year from the date of receipt.
After reconstitution, the protein solution is stable at -20℃ for 3 months, at 2-8℃ for up to 1 week.
Avoid repeated freeze/thaw cycles.

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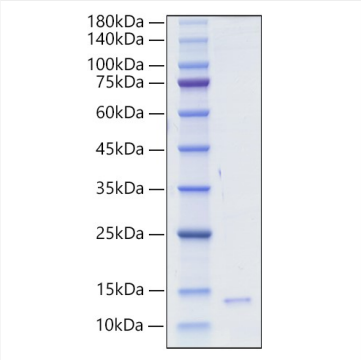
Validation Data



Recombinant Human/Mouse/Rat HMGB1 Box1 Protein was determined by SDS-PAGE under reducing conditions with Coomassie Blue.