

**High-Mobility Group Box 1 Human Recombinant  
RECOMBINANT PROTEIN**

**Catalog Number:** PRP-581PRO  
**Quantity:** 10 micrograms, 50 micrograms, 1 milligram  
**Format:** Sterile-filtered white lyophilized (freeze-dried) powder  
**Host:** *E. coli*

**Background:**

High-mobility group box 1 protein (HMGB1), previously known as HMG-1 or amphoterin, is a member of the high mobility group box family of non-histone chromosomal proteins. Human HMGB1 is expressed as a 30 kDa, 215 amino acid (aa) single chain polypeptide containing three domains: two N-terminal globular, 70 aa positively charged DNA-binding domains (HMG boxes A and B), and a negatively charged 30 aa C-terminal region that contains only Asp and Glu. Residues 27-43 and 178-184 both contain a NLS. Posttranslational modifications of the molecule have been reported, with acetylation occurring on as many as 17 lysine residues. HMGB1 is expressed at high levels in almost all cells. It was originally discovered as a nuclear protein that could bend DNA. Such bending stabilizes nucleosome formation and regulates the expression of select genes upon recruitment by DNA binding proteins.

**Specificity and Preparation:**

High-mobility group box 1 (HMGB1 or HMG1) human recombinant fused with 6X His tag produced in *E. coli* is a single, non-glycosylated, polypeptide chain containing 223 amino acids and having a molecular mass of 26 kDa. The HMGB1 is purified by proprietary chromatographic techniques. Purity is greater than 95.0% as determined by RP-HPLC and SDS-PAGE. The HMGB1 (1 mg/ml) was lyophilized after extensive dialyses against 1x PBS pH-7.4.

Amino acid sequence:

MGKGDPPKPRGKMSSYAFFVQTCREEHKKKHPDASVNFSEFSKKCSERWKTMSAKEKGKFEDMAK  
ADKARYEREMKTYIPPKGETKKKFKDPNAPKRPPSAFFLFCSEYRPKIKGEHPGLSIGDVAKKLGEMW  
NNTAADDKQPYEKKA AKLKEKYEKDIAAYRAKGKPDAAKKGVVKA EKSKKKKEEEDEEDEDEDEE  
EDEEDEDEEEDDDDELEHHHHH

**Usage and Storage:**

It is recommended to reconstitute the lyophilized HMGB1 in sterile 18 MΩ-cm H<sub>2</sub>O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions. Lyophilized HMGB1 although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution HMGB1 should be stored at 4°C between 2-7 days and for future use below -18°C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Avoid repeated freezing and thawing. Gently spin down material before use; 5-10 seconds in a microfuge should be adequate.

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