HMGB1 Positive Control

PRODUCT OVERVIEW

Product Name	HMGB1, Positive Control
Full Product Name	HMGB1 Positive Control
Product Gene Name	HMGB1 positive control
Molecular Weight	24,894 Da
3D Structure	ModBase 3D Structure for P09429
Related Product Information for HMGB1 positive control	MBS5400713 is a positive control targeting HMGB1.
Other Notes	Small volumes of HMGB1 positive control vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for HMGB1. It may not necessarily be applicable to this product.

NCBI GI #	926459555
NCBI GeneID	3146
NCBI Accession #	NP_001300821.1
UniProt Primary Accession #	P09429
UniProt Secondary Accession #	Q14321; Q5T7C3; Q6IBE1; A5D8W9
UniProt Related Accession #	P09429
GenBank Nucleotide #	NM_001313892.1
NCBI Official Full Name	high mobility group protein B1 isoform 1
NCBI Official Synonym Full Names	high mobility group box 1
NCBI Official Symbol	HMGB1
NCBI Official Synonym Symbols	HMG1; HMG3; HMG-1; SBP-1
UniProt Protein Name	High mobility group protein B1
UniProt Synonym Protein Names	High mobility group protein 1; HMG-1
Protein Family	High mobility group B protein
UniProt Gene Name	HMGB1
UniProt Synonym Gene Names	HMG1; HMG-1
NCBI Protein Information	high mobility group protein B1
NCBI Summary for HMGB1	This gene encodes a protein that belongs to the High Mobility Group-box superfamily. The encoded non-histone, nuclear DNA-binding protein regulates transcription, and is involved in organization of DNA. This protein plays a role in several cellular processes, including inflammation, cell differentiation and tumor cell migration. Multiple pseudogenes of this gene have been identified. Alternative splicing results in multiple transcript variants that encode the same protein. [provided by RefSeq, Sep 2015]

UniProt Comments for HMGB1	Multifunctional redox sensitive protein with various roles in different cellular compartments. In the nucleus is one of the major chromatin-associated non-histone proteins and acts as a DNA chaperone involved in replication, transcription, chromatin remodeling, V(D)J recombination, DNA repair and genome stability. Proposed to be an universal biosensor for nucleic acids. Promotes host inflammatory response to sterile and infectious signals and is involved in the coordination and integration of innate and adaptive immune responses. In the cytoplasm functions as sensor and/or chaperone for immunogenic nucleic acids implicating the activation of TLR9-mediated immune responses, and mediates autophagy. Acts as danger associated molecular pattern (DAMP) molecule that amplifies immune responses during tissue injury (PubMed:27362237). Released to the extracellular environment can bind DNA, nucleosomes, IL-1 beta, CXCL12, AGER isoform 2/sRAGE, lipopolysaccharide (LPS) and lipoteichoic acid (LTA), and activates cells through engagement of multiple surface receptors. In the extracellular compartment fully reduced HMGB1 (released by necrosis) acts as a chemokine, disulfide HMGB1 (actively secreted) as a cytokine, and sulfonyl HMGB1 (released from apoptotic cells) promotes immunological tolerance (PubMed:23519706, PubMed:23446148, PubMed:23994764, PubMed:25048472). Has proangiogdenic activity (). May be involved in platelet activation (). Binds to phosphatidylserine and phosphatidylethanolamide (). Bound to RAGE mediates signaling for neuronal outgrowth (). May play a role in accumulation of expanded polyglutamine (polyQ) proteins such as huntingtin (HTT) or TBP (PubMed:23303669, PubMed:25549101).
Research Articles on HMGB1	**1.** HMGB1 possesses beneficial actions, such as endothelial activation, enhancement of neurite outgrowth, and neuronal survival in ischemic stroke. [review]
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