



HMGB1 Recombinant Monoclonal Antibody

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| Product Code | CSB-RA439052A0HU |
| Storage | Upon receipt, store at -20°C or -80°C. Avoid repeated freeze. |
| Uniprot No. | P09429 |
| Immunogen | A synthesized peptide derived from human HMGB1 |
| Species Reactivity | Human |
| Tested Applications | ELISA, WB, IHC; Recommended dilution: WB:1:500-1:5000, IHC:1:50-1:200 |
| Relevance | <p>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 proangiogenic activity (By similarity). May be involved in platelet activation (By similarity). Binds to phosphatidylserine and phosphatidylethanolamide (By similarity). Bound to RAGE mediates signaling for neuronal outgrowth (By similarity). May play a role in accumulation of expanded polyglutamine (polyQ) proteins such as huntingtin (HTT) or TBP (PubMed:23303669, PubMed:25549101).</p> |
| Form | Liquid |
| Conjugate | Non-conjugated |
| Storage Buffer | Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol. |
| Purification Method | Affinity-chromatography |
| Isotype | Rabbit IgG |
| Clonality | Monoclonal |
| Product Type | Recombinant Antibody |
| Immunogen Species | Homo sapiens (Human) |

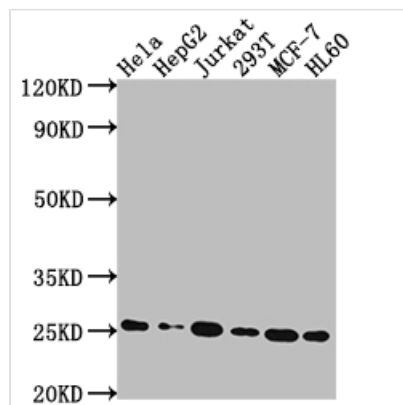


Research Area Epigenetics and Nuclear Signaling

Gene Names HMGB1

Clone No. 1A1

Image



Western Blot

Positive WB detected in: HeLa whole cell lysate, HepG2 whole cell lysate, Jurkat whole cell lysate, 293T whole cell lysate, MCF-7 whole cell lysate, HL60 whole cell lysate

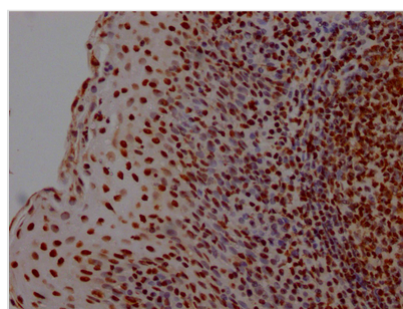
All lanes: HMGB1 antibody at 1:2000

Secondary

Goat polyclonal to rabbit IgG at 1/50000 dilution

Predicted band size: 25 kDa

Observed band size: 25 kDa



IHC image of CSB-RA439052A0HU diluted at 1:100 and staining in paraffin-embedded human tonsil tissue performed on a Leica BondTM system. After dewaxing and hydration, antigen retrieval was mediated by high pressure in a citrate buffer (pH 6.0). Section was blocked with 10% normal goat serum 30min at RT. Then primary antibody (1% BSA) was incubated at 4? overnight. The primary is detected by a Goat anti-rabbit IgG polymer labeled by HRP and visualized using 0.05% DAB.

Description

The recombinant HMGB1 antibody was prepared by obtaining the antibody genes, cloning the genes into a plasma vector to construct vector clone, transfecting the vector clone into a mammalian cell line for transient expression, and purifying the antibody by affinity-chromatography. This recombinant HMGB1 antibody has been verified to detect the HMGB1 protein from Human in the ELISA, WB, IHC.

HMGB1 is primarily located in the nucleus and binds to chromatin. In the nucleus, HMGB1 acts as a DNA chaperone that regulates chromosome structure and function and maintains the transcription, replication, DNA repair, and nucleosome assembly. When stimulated by cellular stress like increased ROS production, HMGB1 traverses the nucleus to the cytoplasm and then into the extracellular space. In the cytoplasm, HMGB1 can promote autophagy by binding to BECN1 protein. Outside the cell, HMGB1 usually functions as a damage-associated molecular pattern (DAMP) molecule, mediating inflammation, immune, and metabolic responses.