

HMGB1 / HMGB1 Antibody (clone 1D5)
Mouse Monoclonal Antibody
Catalog # ALS13327**Specification**

HMGB1 / HMGB1 Antibody (clone 1D5) - Product Information

Application	WB, IF, IHC
Primary Accession	P09429
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Calculated MW	25kDa KDa

HMGB1 / HMGB1 Antibody (clone 1D5) - Additional Information**Gene ID** 3146**Other Names**

High mobility group protein B1, High mobility group protein 1, HMG-1, HMGB1, HMGB1

Reconstitution & Storage

Store at -20°C. Aliquot to avoid freeze/thaw cycles.

Precautions

HMGB1 / HMGB1 Antibody (clone 1D5) is for research use only and not for use in diagnostic or therapeutic procedures.

HMGB1 / HMGB1 Antibody (clone 1D5) - Protein Information**Name** HMGB1 ([HGNC:4983](#))**Synonyms** HMGB1**Function**

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 (PubMed:33147444). 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 a sensor and/or chaperone for immunogenic nucleic acids implicating the activation of TLR9-mediated immune responses, and mediates autophagy. Acts as a 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 (PubMed:<a

[34743181](http://www.uniprot.org/citations/34743181)). 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](http://www.uniprot.org/citations/23519706), PubMed:[23446148](http://www.uniprot.org/citations/23446148), PubMed:[23994764](http://www.uniprot.org/citations/23994764), PubMed:[25048472](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/23303669), PubMed:[25549101](http://www.uniprot.org/citations/25549101)).

Cellular Location

Nucleus. Chromosome {ECO:0000250|UniProtKB:P10103, ECO:0000250|UniProtKB:P63159, ECO:0000305}. Cytoplasm. Secreted {ECO:0000250|UniProtKB:P63158, ECO:0000269|PubMed:12231511, ECO:0000269|PubMed:14532127, ECO:0000269|PubMed:15944249, ECO:0000269|PubMed:19811284, ECO:0000269|PubMed:22869893, ECO:0000269|PubMed:33147444}. Cell membrane {ECO:0000250|UniProtKB:P63158, ECO:0000250|UniProtKB:P63159, ECO:0000269|PubMed:11154118}; Peripheral membrane protein {ECO:0000250|UniProtKB:P63158, ECO:0000250|UniProtKB:P63159, ECO:0000269|PubMed:11154118}; Extracellular side {ECO:0000250|UniProtKB:P63158, ECO:0000250|UniProtKB:P63159, ECO:0000269|PubMed:11154118}. Endosome {ECO:0000250|UniProtKB:P63158} Endoplasmic reticulum-Golgi intermediate compartment {ECO:0000250|UniProtKB:P63158}. Note=In basal state predominantly nuclear. Shuttles between the cytoplasm and the nucleus (PubMed:12231511, PubMed:17114460). Translocates from the nucleus to the cytoplasm upon autophagy stimulation (PubMed:20819940). Release from macrophages in the extracellular milieu requires the activation of NLRC4 or NLRP3 inflammasomes (By similarity). Passively released to the extracellular milieu from necrotic cells by diffusion, involving the fully reduced HGMB1 which subsequently gets oxidized (PubMed:19811284) Also released from apoptotic cells (PubMed:16855214, PubMed:18631454) Active secretion from a variety of immune and non-immune cells such as macrophages, monocytes, neutrophils, dendritic cells and natural killer cells in response to various stimuli such as LPS and cytokines involves a nonconventional secretory process via secretory lysosomes (PubMed:12231511, PubMed:14532127, PubMed:15944249). Secreted by plasma cells in response to LPS (By similarity). Found on the surface of activated platelets (PubMed:11154118). An increased chromatin association is observed when associated with the adenovirus protein pVII (PubMed:27362237). {ECO:0000250|UniProtKB:P63158, ECO:0000269|PubMed:11154118, ECO:0000269|PubMed:12231511, ECO:0000269|PubMed:14532127, ECO:0000269|PubMed:15944249, ECO:0000269|PubMed:16855214, ECO:0000269|PubMed:17114460, ECO:0000269|PubMed:18631454, ECO:0000269|PubMed:19811284, ECO:0000269|PubMed:20819940, ECO:0000269|PubMed:27362237, ECO:0000305|PubMed:20123072}

Tissue Location

Ubiquitous. Expressed in platelets (PubMed:11154118).

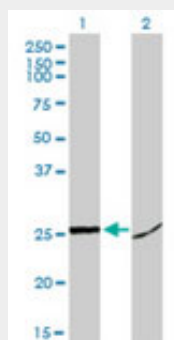
HMGI / HMGB1 Antibody (clone 1D5) - Protocols

Provided below are standard protocols that you may find useful for product applications.

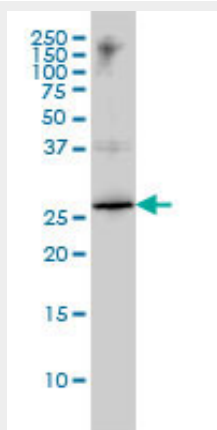
- [Western Blot](#)

- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

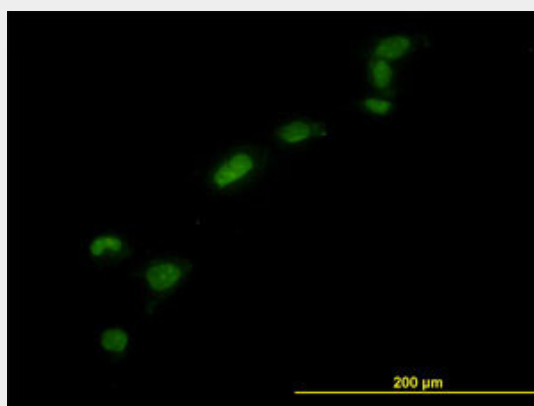
HMGB1 / HMGB1 Antibody (clone 1D5) - Images



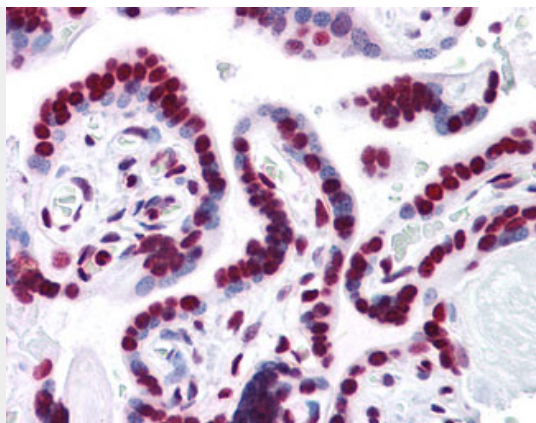
Western blot of HMGB1 expression in transfected 293T cell line by HMGB1 monoclonal antibody...



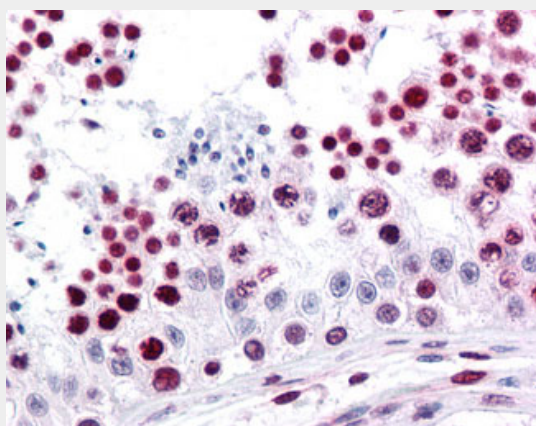
HMGB1 monoclonal antibody clone 1D5 Western blot of HMGB1 expression in K-562.



Immunofluorescence of monoclonal antibody to HMGB1 on HeLa cell (antibody concentration 10 ug/ml).



Anti-HMGB1 antibody IHC of human placenta.



Anti-HMGB1 antibody IHC of human testis.

HMGB1 / HMGB1 Antibody (clone 1D5) - Background

DNA binding proteins that associates with chromatin and has the ability to bend DNA. Binds preferentially single-stranded DNA. Involved in V(D)J recombination by acting as a cofactor of the RAG complex. Acts by stimulating cleavage and RAG protein binding at the 23 bp spacer of conserved recombination signal sequences (RSS). Heparin-binding protein that has a role in the extension of neurite-type cytoplasmic processes in developing cells (By similarity).

HMGB1 / HMGB1 Antibody (clone 1D5) - References

Wen L.,et al.Nucleic Acids Res. 17:1197-1214(1989).
Ferrari S.,et al.Genomics 35:367-371(1996).
Xiang Y.-Y.,et al.Int. J. Cancer 74:1-6(1997).
Kornblit B.,et al.Tissue Antigens 70:151-156(2007).
He F.T.,et al.Submitted (SEP-2003) to the EMBL/GenBank/DDBJ databases.