

HMGB1 Antibody

✓ 100 µl
(10 western blots)

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rev. 02/14/11

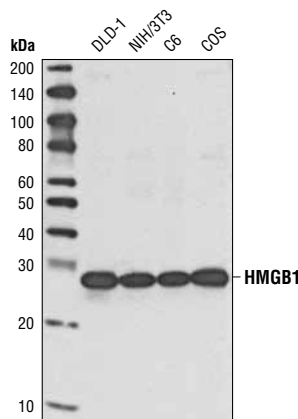
This product is intended for research purposes only. This product is not intended to be used for therapeutic or diagnostic purposes in humans or animals.

Applications	Species Cross-Reactivity*	Molecular Wt.	Source
W, IF-IC Endogenous	H, M, R, Mk, (Pg, Hm, B, Hr)	29 kDa	Rabbit**

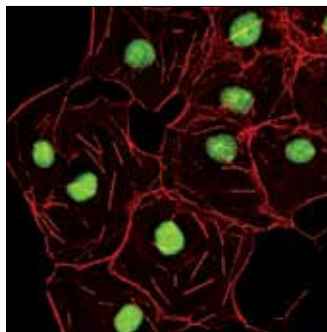
Background: High mobility group protein B1 (HMGB1) belongs to a family of highly conserved proteins that contain HMG box domains (1,2). All three family members (HMGB1, HMGB2 and HMGB3) contain two HMB box domains and a C-terminal acidic domain. HMGB1 is a widely expressed and highly abundant protein (2). HMGB2 is widely expressed during embryonic development, but is restricted to lymphoid organs and testis in adult animals (3). HMGB3 is only expressed during embryogenesis (4). While expression varies, the biochemical properties of the different family members may be indistinguishable. The HMG box domains facilitate the binding of HMGB proteins to the minor groove of DNA, which results in local bending of the DNA double helix (1,2). HMGB proteins are recruited by and help facilitate the assembly of site-specific DNA binding proteins to their cognate binding sites in chromatin. For example, HMGB1 facilitates the binding of Hox proteins, Oct-1, p53, Rel proteins and steroid hormone receptor proteins to their target gene promoters (1,2). In addition to their functions in the nucleus, HMGB proteins play a significant role in extracellular signaling associated with inflammation (5,6). HMGB1 is massively released into the extracellular environment during cell necrosis, but not apoptosis. Extracellular HMGB1 "alarms" the innate immune system by acting as a chemoattractant for inflammatory leukocytes, smooth muscle cells, and stem cells, functioning as an immune adjuvant for soluble and particulate antigens, and triggering activation of T cells and dendritic cells. In addition, activated monocytes, macrophages and dendritic cells also secrete HMGB1, forming a positive feedback loop that results in the release of additional cytokines and neutrophils. Hypoxia has also been shown to cause the release of HMGB1 in the liver, and some studies suggest a role for extracellular HMGB1 in tumor homeostasis (5,6).

Specificity/Sensitivity: HMGB1 Antibody detects endogenous levels of total HMGB1 protein. The antibody does not cross-react with other HMG proteins, including HMGB2 and HMGB3.

Source/Purification: Polyclonal antibodies are produced by immunizing animals with a synthetic peptide (KLH-coupled) corresponding to the human HMGB1 protein. Antibodies are purified by peptide affinity chromatography.



Western blot analysis of extracts from various cell lines using HMGB1 Antibody.



Confocal immunofluorescent analysis of COS cells using HMGB1 Antibody (green). Actin filaments were labeled using DY-554 phalloidin (red).

Entrez-Gene ID #3146
Swiss-Prot Acc. #P09429

Storage: Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at -20°C. Do not aliquot the antibody.

*Species cross-reactivity is determined by western blot.

**Anti-rabbit secondary antibodies must be used to detect this antibody.

Recommended Antibody Dilutions:

Western blotting 1:1000
Immunofluorescence (IF-IC) 1:100

For application specific protocols please see the web page for this product at www.cellsignaling.com.

Please visit www.cellsignaling.com for a complete listing of recommended companion products.

Background References:

- (1) Thomas, J.O. and Travers, A.A. (2001) *Trends Biochem Sci* 26, 167-74.
- (2) Müller, S. et al. (2004) *J Intern Med* 255, 332-43.
- (3) Ronfani, L. et al. (2001) *Development* 128, 1265-73.
- (4) Vaccari, T. et al. (1998) *Genomics* 49, 247-52.
- (5) Campana, L. et al. (2008) *Curr Opin Immunol* 20, 518-23.
- (6) Klune, J.R. et al. (2008) *Mol Med* 14, 476-84.

IMPORTANT: For western blots, incubate membrane with diluted antibody in 5% w/v BSA, 1X TBS, 0.1% Tween-20 at 4°C with gentle shaking, overnight.

Applications Key: W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide
Species Cross-Reactivity Key: H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken Dm—D. melanogaster X—Xenopus Z—zebrafish B—bovine
Dg—dog Pg—pig Sc—S. cerevisiae Ce—C. elegans Hr—Horse All—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.