

HMGN2 (D9B9) XP[®] Rabbit mAb

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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IP, IF-IC	H M R Mk	Endogenous	17	Rabbit IgG	#P05204	3151

Product Usage Information**Application**

Western Blotting
Immunoprecipitation
Immunofluorescence (Immunocytochemistry)

Dilution

1:1000
1:200
1:6400

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

Specificity/Sensitivity

HMGN2 (D9B9) XP[®] Rabbit mAb recognizes endogenous levels of total HMGN2 protein. This antibody does not cross-react with other HMGN proteins.

Species predicted to react based on 100% sequence homology

Bovine, Dog, Pig, Horse, Guinea Pig

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Asp74 of human HMGN2 protein.

Background

High mobility group (HMG) proteins are a superfamily of abundant and ubiquitous nuclear proteins that bind DNA without sequence specificity and induce structural changes to the chromatin fiber to regulate access to the underlying DNA. The HMGN family of proteins, which includes five members (HMGN1-5), is characterized by the presence of several conserved protein domains: a positively charged domain, a nucleosome binding domain, and an acidic C-terminal chromatin-unfolding domain (1,2). HMGN proteins function in transcriptional regulation and are recruited to gene promoters by transcription factors, such as estrogen receptor α (ER α), serum responsive factor (SRF), and PITX2, where they can facilitate either gene activation or repression (3-5). HMGN proteins bind specifically to nucleosomal DNA and reduce compaction of the chromatin fiber, in part by competing with linker histone H1 for nucleosome binding (6). In addition, HMGN proteins act to modulate local levels of post-translational histone modifications, decreasing phosphorylation of histone H3 at Ser10 and histone H2A at Ser1 and increasing acetylation of histone H3 at Lys14 (7-9). HMGN proteins can also modulate the activity of several chromatin-remodeling factors and restrict nucleosome mobility (10). HMGN2 (also known as HMG17) expression is tightly linked to cellular differentiation. HMGN2 is ubiquitous and highly expressed in all embryonic tissues. During mouse embryogenesis, expression is down-regulated throughout the embryo, except in committed, continuously renewing cell types undergoing active differentiation, such as the basal layer of the epithelium and kidney cells undergoing mesenchyme to epithelium transition (11,12). In addition to its function in regulating chromatin structure in the nucleus, HMGN2 also plays a role in innate immunity against bacterial pathogens and tumor cells. Leukocytes, which play a central role in the innate immune defense in mammals by secreting an array of antimicrobial proteins and peptides, secrete HMGN2 upon stimulation with interleukin 2 (IL-2). Following stimulation, HMGN2 translocates from the nucleus to the cytoplasm and is released into the extracellular environment (13). HMGN2, more specifically the alpha-helical domain (residues 18 to 48), shows strong antimicrobial activity towards multiple bacterial pathogens (13). In addition, the amino-terminus of HMGN2 has been shown to contain tumor homing activity, while the carboxy-terminal region inhibits tumor invasion and metastasis (14,15).

Background References

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Species Reactivity	Species reactivity is determined by testing in at least one approved application (e.g., western blot).
Western Blot Buffer	IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.
Applications Key	W: Western Blotting IP: Immunoprecipitation IF-IC: Immunofluorescence (Immunocytochemistry)
Cross-Reactivity Key	H: Human M: Mouse R: Rat Mk: Monkey
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