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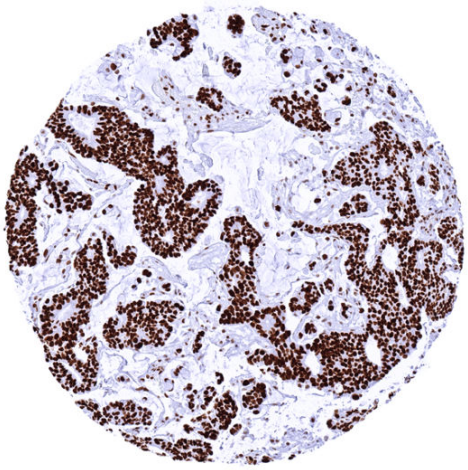
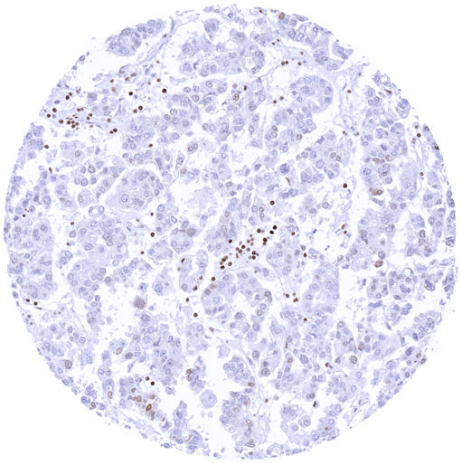
Anti- HMGB1 Antibody
HMV317/ Recombinant Rabbit monoclonal

Human SwissProt	P09429
Human Gene Symbol	HMBG1
Synonyms	high mobility group box 1,HMG-1,HMG1,HMG3,SBP-1
Specificity	HMBG1
Immunogen	Carrier-protein conjugated synthetic peptide encompassing a sequence within the N-terminus region of human HMGB1. The exact sequence is proprietary.
Isotype	Rabbit / IgG
Species Reactivity	Human

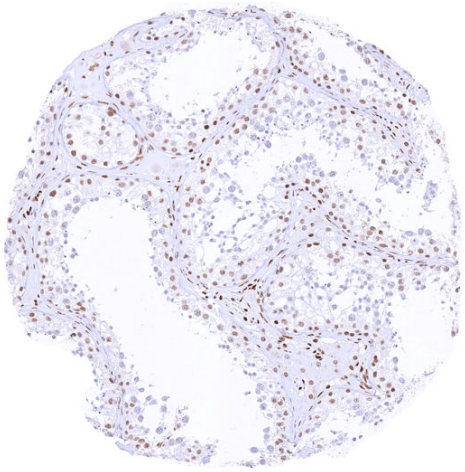
Localization	Intracellular
Storage & Stability	Antibody with azide – store at 2 to 8 C. Antibody without azide – store at -20 to -80 C. Antibody is stable for 24 months. Non-hazardous. No MSD required.
Supplied As	Purified antibody from Bioreactor Concentrate by Protein A/G. Prepared in 10mM PBS with <1% BSA & <0.1% azide. Antibody concentrate is optimized for dilution within dilution range using commercially available antibody diluent for IHC.
Positive Control	Colon: A strong HMGB1 positivity should be seen in all cell types.
Negative Control	Testis: Spermatids and more mature spermatocytes should be HMGB1 negative.



Muscle-invasive urothelial carcinoma of the urinary bladder showing strong HMGB1 positivity of all tumor cells



Ovarian clear cell carcinoma with complete lack of HMGB1 staining in tumor cells



Testis showing a continuous decrease of HMGB1 staining during maturation of germ cells. Spermatocytes and spermatids are largely HMGB1 negative

Biology

High-mobility group protein B1 (HMGB1) is a chromatin-associated protein which is ubiquitously expressed in human cells. HMGB1 is the second most abundant protein (after histone) inside the nucleus but it also excerts important functions in the cytoplasm and in the extracellular space. In the nucleus, HMGB1 plays a role in maintenance of nucleosome structure, regulation of DNA replication, transcription, and DNA repair. HMGB1 increases the binding affinity of many transcription factors (for example: p53, Rb, NF-κB, estrogen receptor) to their target DNA sequences. In the extracellular space, HMGB1 has a role as damage-associated molecular pattern molecules (DAMPs) that mediates inflammation and immune responses. Extracellular HMGB1 is thought to contribute to various conditions, including sepsis, atherosclerosis, arthritis, neurodegeneration, meningitis, and cancer. Therapeutic options to regulate HMGB1 in preclinical models are being evaluated. A nuclear HMGB1 expression occurs in virtually all tissues and cell types. The level of HMGB1 expression varies between tissues/cell types to some extent. A particularly low HMGB1 expression occurs in maturing spermatocytes and spermatids of the testis and in epithelial cells of the adenohypophysis. A positive HMGB1 immunostaining (at variable levels of intensity) can be seen in tumor cells of virtually all cancer types as well as in tumor associated stromal and inflammatory cells.

Potential Research Applications

-The clinical significance (prognostic/predictive) of HMGB1 expression levels in cancer is unknown.
-The exact mechanism of HMGB1's translocation from the nucleus to cytoplasm then out into the extracellular matrix is not fully understood.

Protocol Suggestions

Dilution: 1:200 pH 7,8 is optimal. Freshly cut sections should be used (more than 10 days between cutting and staining deteriorates staining intensity for most antibodies in IHC).

Limitations

This antibody is available for **research use only** and is not approved for use in diagnostics.

Warranty

There are no warranties, expressed or implied, which extend beyond this description. MSVA is not liable for any personal injury or economic loss resulting from this product.

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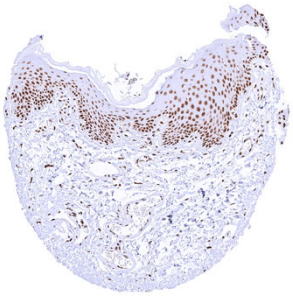
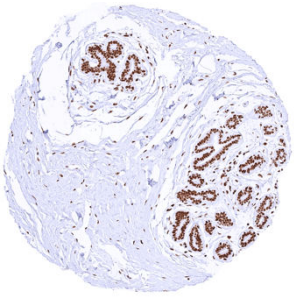
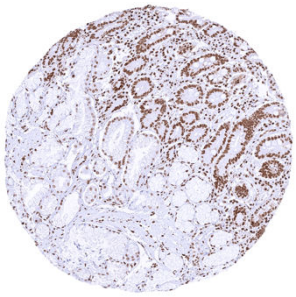


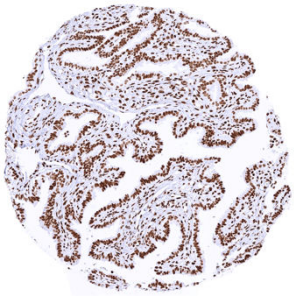
Anal canal, skin – HMGB1 staining intensity is strongest in the basal and suprabasal cell layers and it countinuously decreases towards the superficial cell layers



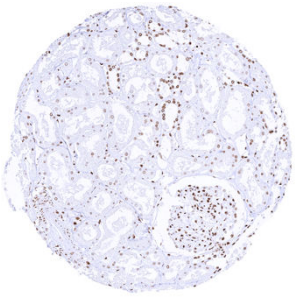
Breast – HMGB1 positivity is strongest in basal and luminal epithelial cells



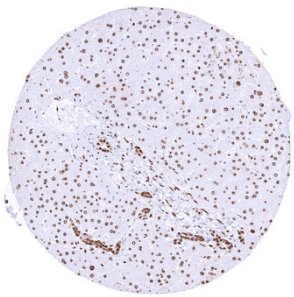
Duodenum, Brunner gland – Significant nuclear HMGB1 staining of all epithelial and inflammatory cells. HMGB1 staining is somewhat weaker in Brunner glands



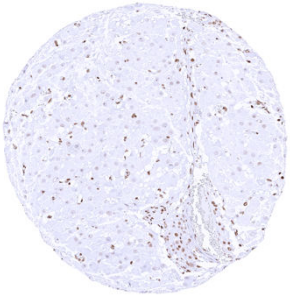
Fallopian tube, mucosa



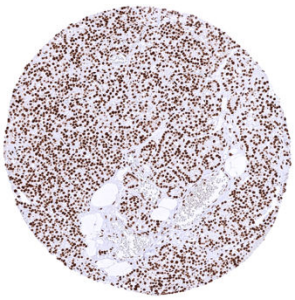
Kidney, cortex – Significant nuclear HMGB1 staining of all cells. Staining is particularly low in tubuli (especially proximal) and highest in collecting ducts and glomeruli



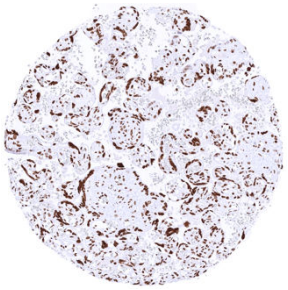
Liver – Significant nuclear HMGB1 staining of all cells. Staining is particularly high in bile ducts and particularly low in hepatocytes



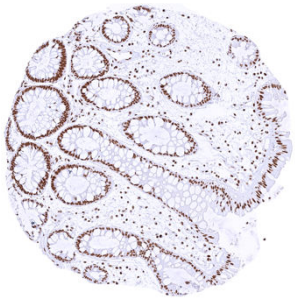
Ovary, corpus luteum – HMGB1 staining is only faint in the corpus luteum



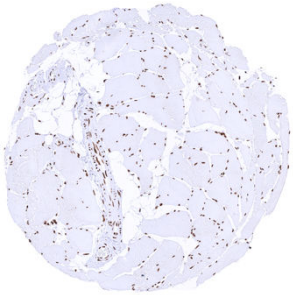
Parathyroid gland



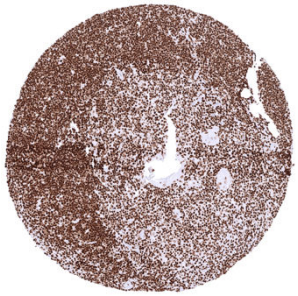
Placenta, mature



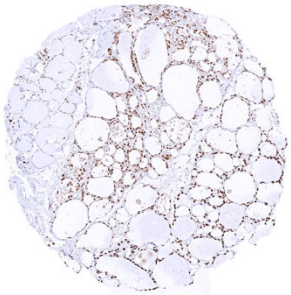
Rectum, mucosa – Significant nuclear HMGB1 staining of all cells. Staining intensity is higher in the crypt base than in the surface epithelium



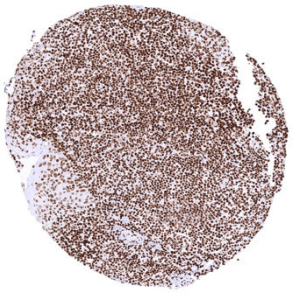
Skeletal muscle



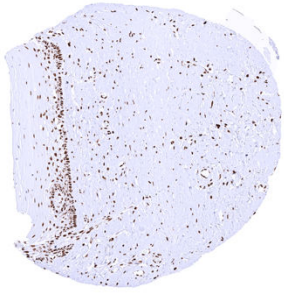
Thymus – Strong nuclear HMGB1 staining of virtually all cells of the immune system. HMBG1 labeling is weaker in corpuscles of Hassall's, especially in their central areas



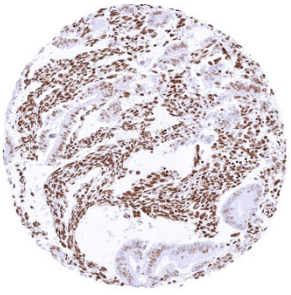
Thyroid gland



Tonsil



Uterus, ectocervix – HMGB1 staining intensity is strongest in the basal and suprabasal cell layers and countinuously decreases towards the superficial cell layers



Uterus, endometrium (secretion) – Strong nuclear HMGB1 staining of stromal cells while HMGB1 staining is markedly less intense in epithelial cells in this sample