HMG-box Transcription Factor Antibody / SOX9 [clone MSVA-709R] (V5998)

Catalog No.	Formulation	Size
V5998-100UG	Antibody in 1X PBS with 0.05% BSA, 0.05% sodium azide	100 ug
V5998-20UG	Antibody in 1X PBS with 0.05% BSA, 0.05% sodium azide	20 ug

Recombinant RABBIT MONOCLONAL

Bulk quote request

Species Reactivity	Human
Format	Purified
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG, kappa
Clone Name	MSVA-709R
UniProt	P48436
Localization	Nucleus
Applications	Immunohistochemistry (FFPE) : 1-2ug/ml
Limitations	This HMG-box Transcription Factor/SOX9 antibody is available for research use only.

HMG-box Transcription Factor / SOX9 antibody (clone MSVA-709R) immunohistochemistry analysis of formalin-fixed, paraffin-embedded human tissue microarrays. Representative staining across a broad panel of normal and cancer tissues demonstrates predominantly nuclear localization consistent with SOX9 expression patterns. Staining intensity and tissue distribution correlate with publicly available protein expression data reported in the Human Protein Atlas.

Description

HMG-box Transcription Factor Antibody recognizes SRY-box transcription factor 9 (Transcription factor Sox-9), a nuclear DNA-binding protein encoded by the SOX9 gene. SOX9 is a member of the SOX family of transcription factors and contains a conserved HMG-box domain that binds sequence-specific motifs and bends DNA to enable assembly of transcriptional complexes. In cells, SOX9 localizes predominantly to the nucleus, where it regulates lineage specification and differentiation programs, making HMG-box Transcription Factor Antibody useful for tracking SOX9-positive populations in development and disease.

SOX9 is best known for its role in chondrogenesis, where it activates cartilage gene networks that include Collagen type II and aggrecan and cooperates with cofactors such as SOX5 and SOX6 to maintain the chondrocyte phenotype. These transcriptional programs intersect with major developmental signaling pathways, including TGF-beta, BMP, Wnt, and Hedgehog signaling, which tune SOX9 expression and activity during skeletal patterning and growth plate maturation. The human SOX9 locus resides on chromosome 17 (17q24.3), and haploinsufficiency or regulatory disruption is associated with campomelic dysplasia and disorders of sex development, reflecting the protein's central developmental function.

Outside cartilage, SOX9 contributes to organogenesis and epithelial progenitor maintenance. In pancreas, SOX9 expression is commonly associated with ductal epithelial compartments and regenerative responses, while in liver it is linked to biliary epithelial cells and ductular reactions. SOX9-positive progenitor-like compartments are also described in intestine (crypt-associated cells) and respiratory epithelium, aligning with a broader role in epithelial plasticity and repair. Because SOX9 is a transcription factor, immunostaining typically presents as nuclear signal in positive cells, and HMG-box Transcription Factor Antibody can help distinguish these compartments from adjacent differentiated cell populations in tissue sections.

Disease relevance extends into oncology, where SOX9 expression is reported in multiple tumor settings and is frequently studied as a marker of cellular plasticity, stem-like states, and epithelial-mesenchymal transition-associated programs. In carcinomas such as pancreatic and colorectal cancer, SOX9 regulation is often discussed in the context of Wnt and TGF-beta pathway activity and tumor microenvironment cues. Clone MSVA-709R is a rabbit recombinant monoclonal reagent intended for consistent detection of SOX9, and a SOX9 antibody can be used to assess nuclear SOX9 patterns in immunohistochemistry or other research assays.

Application Notes

1. Optimal dilution of the HMG-box Transcription Factor/SOX9 antibody should be determined by the researcher.

2. This HMG-box Transcription Factor/SOX9 antibody is recombinantly produced by expression in human HEK293 cells.

3. Manual Protocol: Freshly cut sections should be used (less than 10 days between cutting and staining). Heat-induced antigen retrieval for 5 minutes in an autoclave at 121oC in pH 7.8 Target Retrieval Solution buffer. Apply the antibody at a dilution of 1:150 at 37oC for 60 minutes. Visualization of bound antibody by the EnVision Kit (Dako, Agilent) according to the manufacturer's directions.

Immunogen

Recombinant humanSOX9 protein fragment (around amino acids 393-508) (exact sequence is proprietary) was used as the immunogen for the HMG-box Transcription Factor/SOX9 antibody.

Storage

HMG-box Transcription Factor/SOX9 antibody with sodium azide - store at 2 to 8oC; antibody without sodium azide - store at -20 to -80oC.