

KD-Validated Anti-SRY-Box Transcription Factor 9 Rabbit Monoclonal Antibody
Rabbit monoclonal antibody
Catalog # AGI1752**Specification****KD-Validated Anti-SRY-Box Transcription Factor 9 Rabbit Monoclonal Antibody - Product Information**

Application	WB, FC, ICC
Primary Accession	P48436
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Isotype	Rabbit IgG
Calculated MW	Predicted, 56 kDa , observed , 70 kDa KDa
Gene Name	SOX9
Aliases	SOX9; SRY-Box Transcription Factor 9; SRA1; Transcription Factor SOX-9; SRY-Box 9; CMPD1; CMD1; Campomelic Dysplasia, Autosomal Sex-Reversal; SRY (Sex-Determining Region Y)-Box 9 Protein; SRY (Sex Determining Region Y)-Box 9; SRY (Sex Determining Region Y)-Box9; SRY-Related HMG-Box, Gene 9; SRXY10; SRXX2
Immunogen	A synthesized peptide derived from human SOX9

KD-Validated Anti-SRY-Box Transcription Factor 9 Rabbit Monoclonal Antibody - Additional Information

Gene ID	6662
Other Names	
Transcription factor SOX-9, SOX9 {ECO:0000303 PubMed:7990924, ECO:0000312 HGNC:HGNC:11204}	

KD-Validated Anti-SRY-Box Transcription Factor 9 Rabbit Monoclonal Antibody - Protein Information

Name SOX9 {ECO:0000303|PubMed:7990924, ECO:0000312|HGNC:HGNC:11204}

Function

Transcription factor that plays a key role in chondrocytes differentiation and skeletal development (PubMed:24038782). Specifically binds the 5'-ACAAAG-3' DNA motif present in enhancers and super-enhancers and promotes expression of genes important for chondrogenesis, including cartilage matrix protein-coding genes COL2A1, COL4A2, COL9A1, COL11A2 and ACAN, SOX5 and SOX6 (PubMed:8640233). Also binds to some promoter regions (By similarity). Plays a central role in successive steps of chondrocyte differentiation (By similarity). Absolutely required for precartilaginous condensation,

the first step in chondrogenesis during which skeletal progenitors differentiate into prechondrocytes (By similarity). Together with SOX5 and SOX6, required for overt chondrogenesis when condensed prechondrocytes differentiate into early stage chondrocytes, the second step in chondrogenesis (By similarity). Later, required to direct hypertrophic maturation and block osteoblast differentiation of growth plate chondrocytes: maintains chondrocyte columnar proliferation, delays prehypertrophy and then prevents osteoblastic differentiation of chondrocytes by lowering beta-catenin (CTNNB1) signaling and RUNX2 expression (By similarity). Also required for chondrocyte hypertrophy, both indirectly, by keeping the lineage fate of chondrocytes, and directly, by remaining present in upper hypertrophic cells and transactivating COL10A1 along with MEF2C (By similarity). Low lipid levels are the main nutritional determinant for chondrogenic commitment of skeletal progenitor cells: when lipids levels are low, FOXO (FOXO1 and FOXO3) transcription factors promote expression of SOX9, which induces chondrogenic commitment and suppresses fatty acid oxidation (By similarity). Mechanistically, helps, but is not required, to remove epigenetic signatures of transcriptional repression and deposit active promoter and enhancer marks at chondrocyte-specific genes (By similarity). Acts in cooperation with the Hedgehog pathway-dependent GLI (GLI1 and GLI3) transcription factors (By similarity). In addition to cartilage development, also acts as a regulator of proliferation and differentiation in epithelial stem/progenitor cells: involved in the lung epithelium during branching morphogenesis, by balancing proliferation and differentiation and regulating the extracellular matrix (By similarity). Controls epithelial branching during kidney development (By similarity).

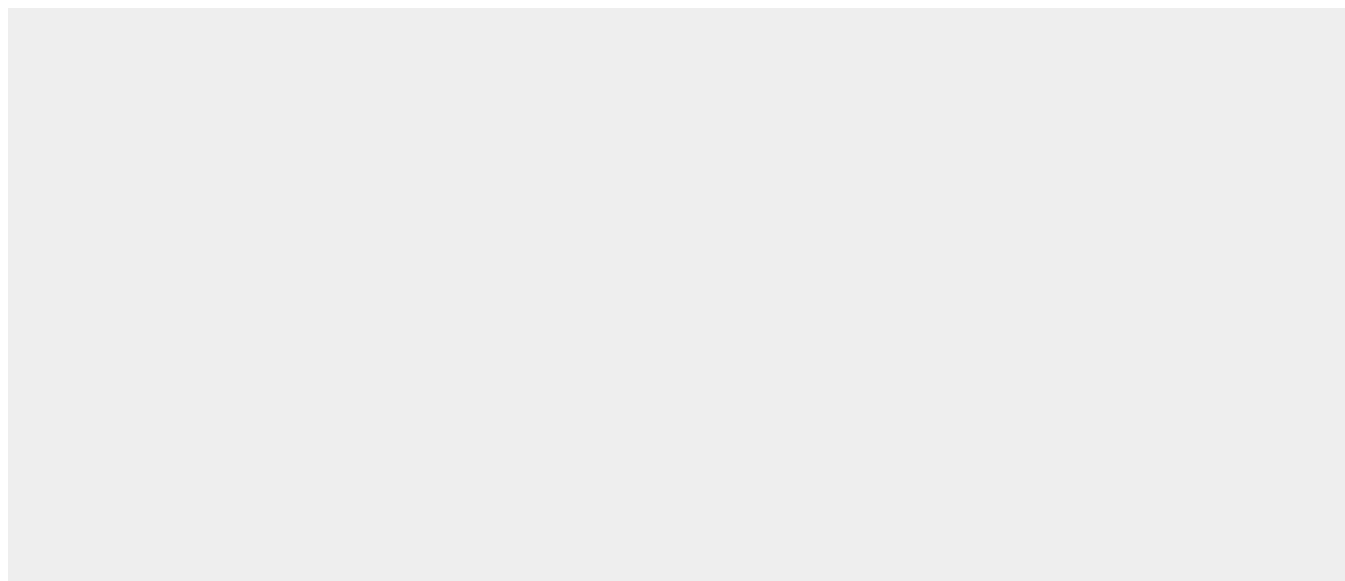
Cellular Location

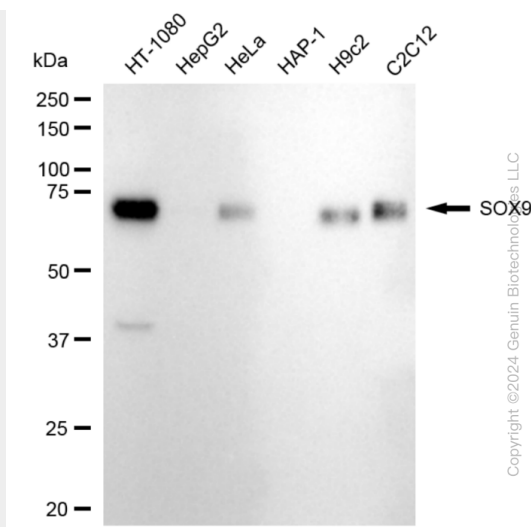
Nucleus {ECO:0000255|PROSITE-ProRule:PRU00267, ECO:0000269|PubMed:8640233}

KD-Validated Anti-SRY-Box Transcription Factor 9 Rabbit Monoclonal Antibody - Protocols

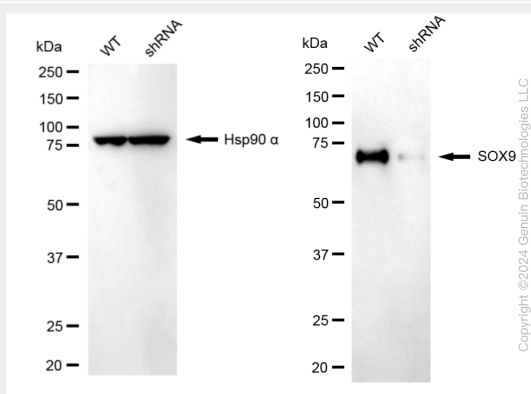
Provided below are standard protocols that you may find useful for product applications.

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

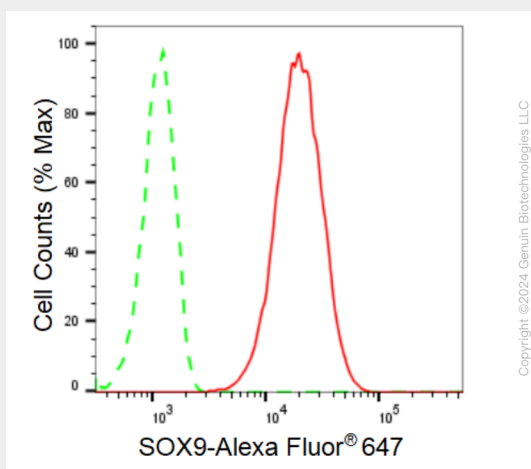
KD-Validated Anti-SRY-Box Transcription Factor 9 Rabbit Monoclonal Antibody - Images



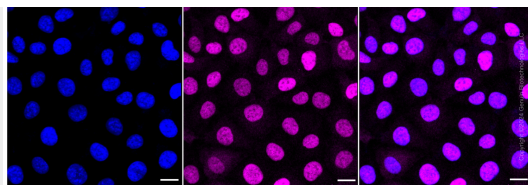
Western blotting analysis using anti-SOX9 antibody (Cat#AGI1752). Total cell lysates (30 µg) from various cell lines were loaded and separated by SDS-PAGE. The blot was incubated with anti-SOX9 antibody (Cat#AGI1752, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody respectively.



Western blotting analysis using anti-SOX9 antibody (Cat#AGI1752). SOX9 expression in wild-type (WT) and SOX9 shRNA knockdown (KD) HeLa cells with 20 µg of total cell lysates. Hsp90 α serves as a loading control. The blot was incubated with anti-SOX9 antibody (Cat#AGI1752, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody respectively.



Flow cytometric analysis of SOX9 expression in HT-1080 cells using anti-SOX9 antibody (Cat#AGI1752, 1:2,000). Green, isotype control; red, SOX9.



Immunocytochemical staining of HT-1080 cells with anti- antibody (Cat#AGI1752, 1:1,000). Nuclei were stained blue with DAPI; was stained magenta with Alexa Fluor® 647. Images were taken using Leica stellaris 5. Protein abundance based on laser Intensity and smart gain: Medium. Scale bar: 20 μ m.