

# Anti-SOX9 (pS181) Antibody

Rabbit polyclonal antibody to SOX9 (pS181) Catalog # AP59706

#### Specification

## Anti-SOX9 (pS181) Antibody - Product Information

Application Primary Accession Other Accession Reactivity Host Clonality Calculated MW WB <u>P48436</u> <u>Q04887</u> Human, Mouse, Rat, Pig, Dog Rabbit Polyclonal 56137

### Anti-SOX9 (pS181) Antibody - Additional Information

Gene ID 6662

**Other Names** Transcription factor SOX-9

Target/Specificity Recognizes endogenous levels of SOX9 (pS181) protein.

Dilution WB~~WB (1/500 - 1/1000)

**Format** Liquid in 0.42% Potassium phosphate, 0.87% Sodium chloride, pH 7.3, 30% glycerol, and 0.09% (W/V) sodium azide.

Storage Store at -20 °C.Stable for 12 months from date of receipt

## Anti-SOX9 (pS181) 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:<a href="http://www.uniprot.org/citations/24038782" target="\_blank">24038782</a>). 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:<a href="http://www.uniprot.org/citations/8640233" target="\_blank">8640233</a>). 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**

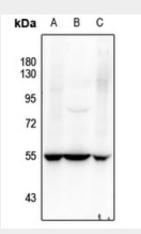
Nucleus {ECO:0000255|PROSITE-ProRule:PRU00267, ECO:0000269|PubMed:8640233}

## Anti-SOX9 (pS181) Antibody - Protocols

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

- <u>Western Blot</u>
- Blocking Peptides
- <u>Dot Blot</u>
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- <u>Cell Culture</u>

#### Anti-SOX9 (pS181) Antibody - Images



Western blot analysis of SOX9 (pS181) expression in DLD (A), HEK293T (B), A375 (C) whole cell lysates.



# Anti-SOX9 (pS181) Antibody - Background

KLH-conjugated synthetic peptide encompassing a sequence within the center region of human SOX9. The exact sequence is proprietary.