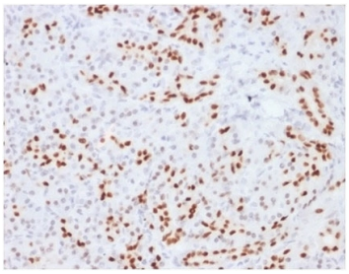
SOX9 Antibody / Lineage Specification Marker Antibody [clone SOX9/2104] (V8965)

Catalog No.	Formulation	Size
V8965-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	100 ug
V8965-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	20 ug
V8965SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Bulk quote request

Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG2b
Clone Name	SOX9/2104
Purity	Protein A/G affinity
UniProt	P48436
Localization	Nuclear
Applications	Immunohistochemistry (FFPE) : 1-2ug/ml
Limitations	This SOX9 Antibody / Lineage Specification Marker Antibody is available for research use only.



SOX9 Antibody Pancreas Lineage IHC. Immunohistochemistry analysis of FFPE human pancreatic tissue using SOX9 Antibody. Mouse monoclonal antibody clone SOX9/2104 demonstrates strong nuclear HRP-DAB brown staining in pancreatic ductal epithelial cells and scattered lineage-defined epithelial populations, consistent with SOX9â€™s role as a transcription factor regulating lineage specification. Acinar cells show minimal staining, while stromal components remain largely negative, providing clear contrast of SOX9-positive compartments. The staining pattern highlights epithelial lineage boundaries and progenitor-associated regions within pancreatic tissue. Heat-induced epitope retrieval was performed using pH 9 Tris-EDTA buffer to optimize nuclear antigen detection.

Description

SRY-box transcription factor 9 (SOX9) is a nuclear transcription factor that functions as a master regulator of lineage specification, epithelial differentiation, and organ development, controlling gene expression programs that define cellular identity across multiple tissue types. SOX9 Antibody is widely used to study lineage commitment and differentiation pathways, particularly in epithelial and glandular systems. SOX9 Antibody / Lineage Specification Marker Antibody enables sensitive detection of nuclear SOX9 expression in cells maintaining defined lineage states or undergoing lineage commitment.

In immunohistochemistry applications, SOX9 demonstrates strong and consistent nuclear staining in lineage-defined epithelial compartments, including pancreatic ductal epithelium, intestinal crypt cells, and biliary structures. SOX9 antibody, also known as SRY-box transcription factor 9 antibody, is commonly used in formalin-fixed, paraffin-embedded (FFPE) tissues to delineate epithelial lineage boundaries and distinguish differentiated cell populations from surrounding stromal or mesenchymal components. This clear nuclear localization provides high-contrast visualization of lineage-specific cells. In tissue microarray (TMA) analysis, reproducible nuclear staining across multiple tissue cores supports comparative evaluation of lineage specification patterns across organ systems, developmental states, and disease conditions.

SOX9 operates downstream of key developmental signaling pathways including Wnt/beta-catenin, Notch, and Hedgehog, integrating extracellular cues that drive lineage commitment while maintaining epithelial identity. Its activity is essential for preserving tissue architecture and regulating differentiation hierarchies in both embryonic development and adult tissue homeostasis. SOX9 Antibody enables visualization of these transcriptionally active populations, supporting detailed analysis of lineage structure and cellular organization within complex tissues.

In cancer, SOX9 expression frequently reflects reactivation of developmental lineage programs, contributing to altered differentiation states and increased cellular plasticity. Nuclear SOX9 staining is often observed in tumors with glandular or progenitor-like features, where it marks cells that retain or reacquire lineage-defining transcriptional programs. This makes SOX9 Antibody particularly useful for evaluating lineage-associated changes in tumor tissue and for identifying tumor subpopulations with distinct differentiation profiles. In TMA-based studies, these patterns can be assessed across large cohorts, enabling consistent cross-sample comparison of lineage-related expression.

Beyond epithelial systems, SOX9 is also essential for chondrogenesis and gonadal development, highlighting its conserved role in lineage determination across diverse biological contexts. Its broad involvement in cell fate decisions underscores its importance as a central regulator of developmental biology. SOX9 Antibody provides a robust and reproducible tool for examining these processes in both normal and pathological tissues.

Overall, SOX9 Antibody is well suited for immunohistochemical detection of lineage specification and differentiation-associated transcriptional activity. Its strong nuclear staining pattern, clear delineation of epithelial lineage compartments, and reproducibility in TMA-based analysis make it particularly valuable for studies of tissue organization, development, and disease-associated changes in cellular identity.

This SOX9 antibody is part of a broader SOX9 antibody panel offered by NSJ Bioreagents.

Application Notes

Optimal dilution of the SOX9 Antibody / Lineage Specification Marker Antibody should be determined by the researcher.

Immunogen

A portion of amino acids 393-508 was used as the immunogen for the SOX9 antibody.

Storage

Aliquot the SOX9 antibody and store frozen at -20oC or colder. Avoid repeated freeze-thaw cycles.

Alternate Names

SOX9 antibody, SRY-box transcription factor 9 antibody, SOX9 lineage marker antibody, SOX9 differentiation marker antibody, SOX9 immunohistochemistry antibody