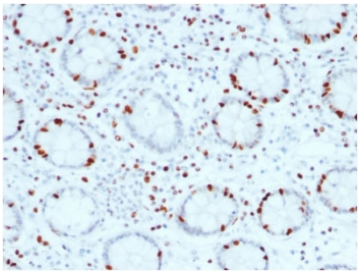
SRY Box 4 Antibody SOX4/2540 / SOX4 Monoclonal Antibody [clone SOX4/2540] (V3874)

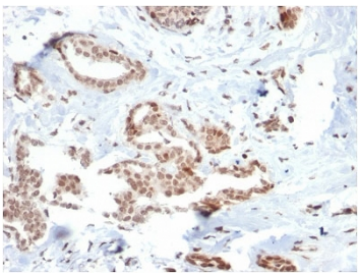
Catalog No.	Formulation	Size
V3874-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V3874-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V3874SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Bulk quote request

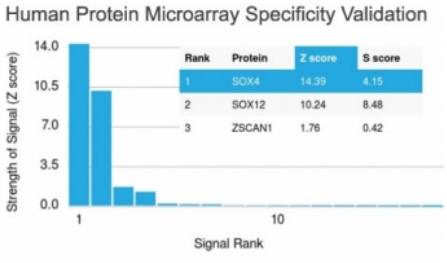
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG2b, kappa
Clone Name	SOX4/2540
Purity	Protein G affinity chromatography
UniProt	Q06945
Localization	Nuclear
Applications	Immunohistochemistry (FFPE): 1-2ug/ml for 30 min at RT
Limitations	This SRY Box 4 Antibody SOX4/2540 / SOX4 Monoclonal Antibody is available for research use only.



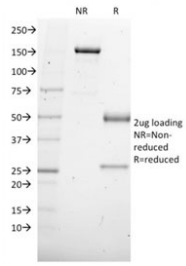
SRY Box 4 Antibody SOX4/2540 by IHC in human colon carcinoma. Immunohistochemistry of formalin-fixed, paraffin-embedded human colon carcinoma tissue using SRY Box 4 Antibody clone SOX4/2540. Brown immunoreactivity is visible in scattered cells and along portions of the glandular epithelial structures, with prominent staining in individual nuclei. The staining pattern is heterogeneous, with numerous surrounding cells exhibiting little detectable signal. Hematoxylin counterstaining highlights nuclei in blue. The SOX4 Monoclonal Antibody was applied following heat-induced epitope retrieval by boiling tissue sections in 10 mM citrate buffer, pH 6, for 10-20 minutes, followed by cooling.



SRY Box 4 Antibody SOX4/2540 by IHC in human breast carcinoma. Immunohistochemistry of formalin-fixed, paraffin-embedded human breast carcinoma tissue using SRY Box 4 Antibody clone SOX4/2540. Brown immunoreactivity is prominent in groups of carcinoma cells, with staining involving both nuclear and cytoplasmic regions. The distribution is heterogeneous, with strongly stained tumor cell clusters adjacent to areas exhibiting comparatively weak staining. Surrounding connective tissue shows limited immunoreactivity. Hematoxylin counterstaining provides blue nuclear contrast. The SOX4 Monoclonal Antibody was applied following heat-induced epitope retrieval in 10 mM citrate buffer, pH 6, for 10-20 minutes, followed by cooling.



SRY Box 4 Antibody SOX4/2540 by protein microarray. Protein Microarray Validated analysis of SRY Box 4 Antibody clone SOX4/2540 using a HuProt human protein microarray containing more than 19,000 full-length proteins. The graph shows a prominent binding signal for SOX4, with additional reactivity toward SOX12, another member of the SOXC transcription factor family. Most other proteins represented in the analysis exhibit substantially lower signals. Although the SOX4 Monoclonal Antibody recognizes its intended target, the observed SOX12 binding indicates that its specificity is not exclusive to SOX4. This cross-reactivity should be considered when interpreting results from samples expressing both proteins.



SRY Box 4 Antibody SOX4/2540 purity by SDS-PAGE. SDS-PAGE analysis of purified, BSA-free SRY Box 4 Antibody clone SOX4/2540 under non-reduced (NR) and reduced (R) conditions. The non-reduced preparation shows a prominent band near 150 kDa, consistent with intact immunoglobulin. The reduced preparation displays bands corresponding to immunoglobulin heavy and light chains, migrating at approximately 50 kDa and 25 kDa, respectively. Molecular weight standards are included for reference. This analysis evaluates antibody integrity and purity rather than the detection of endogenous SOX4 protein. The SOX4 Monoclonal Antibody was purified using Protein G affinity chromatography.

Description

SRY Box 4 Antibody SOX4/2540 / SOX4 Monoclonal Antibody recognizes SOX4, a member of the SOXC subgroup of SRY-related high-mobility group box transcription factors. SOX4 is encoded by the SOX4 gene and functions as a regulator of gene expression during embryogenesis, tissue development, and cellular differentiation. Its highly conserved HMG domain mediates sequence-specific DNA binding and contributes to the regulation of developmental transcriptional programs. SOX4 belongs to the same subgroup as SOX11 and SOX12, which share structural similarities but differ in their biological activities and tissue expression patterns.

During embryonic development, SOX4 participates in the formation of multiple organ systems, including the heart, nervous system, and skeletal structures. Its expression is associated with progenitor populations undergoing lineage commitment and differentiation. In developing neural tissues, SOX4 contributes to neuronal maturation and the regulation of genes involved in cellular identity. These functions frequently overlap with those of SOX11, illustrating the coordinated activity of SOXC transcription factors in developmental gene networks.

SOX4 also has important roles in immune system development. Genetic studies have demonstrated its involvement in early B-cell differentiation and the survival of developing lymphocytes. Through its influence on transcriptional programs, SOX4 helps coordinate developmental transitions within hematopoietic cell populations. Its expression can change substantially as cells progress from progenitor states toward mature lineages, making it relevant to investigations of immune cell differentiation.

In cancer research, SOX4 expression has been examined in epithelial and hematological malignancies. Altered SOX4

activity may influence tumor cell proliferation, migration, epithelial-mesenchymal transition, and survival. However, the biological consequences of SOX4 expression vary with tumor type and the surrounding regulatory environment. These context-dependent functions are important when interpreting its association with tumor progression and clinical outcomes.

NSJ Bioreagents provides SRY Box 4 Antibody SOX4/2540 for studies examining SOX4 expression in human tissues. This SOX4 Monoclonal Antibody supports investigations of developmental transcription factors and their involvement in normal differentiation and malignancy. Because related SOXC proteins share conserved sequences, interpretation of antibody staining should account for potential cross-reactivity with SOX12 when supported by experimental specificity data.

Explore our SOX4 Antibody PCRP-SOX4-1D6 for additional research into SOX4 expression, transcriptional regulation, and developmental signaling.

Application Notes

Optimal dilution of the SRY Box 4 Antibody SOX4/2540 / SOX4 Monoclonal Antibody should be determined by the researcher.

Immunogen

Full length recombinant human protein was used as the immunogen for the SOX4 antibody.

Storage

Store the SOX4 antibody at 2-8oC (with azide) or aliquot and store at -20oC or colder (without azide).

Alternate Names

SOX4 antibody, SRY-box transcription factor 4 antibody, SRY-related HMG-box 4 antibody, SOX-4 antibody, SRY box protein 4 antibody

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