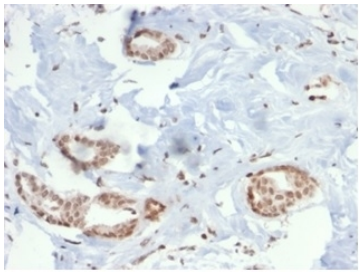
SOX4 Antibody PCRP-SOX4-1D6 / SOX4 Monoclonal Antibody [clone PCRP-SOX4-1D6] (V9701)

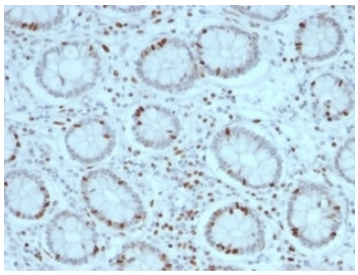
Catalog No.	Formulation	Size
V9701-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	100 ug
V9701-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	20 ug
V9701SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Bulk quote request

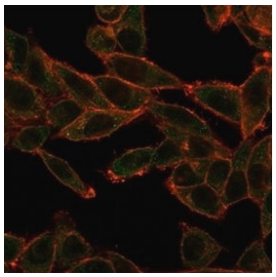
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG2b, kappa
Clone Name	PCRP-SOX4-1D6
Purity	Protein A/G affinity
UniProt	Q06945
Localization	Nucleus
Applications	Flow cytometry: 1-2ug/million cells Immunofluorescence: 1-2ug/ml Western blot: 1-2ug/ml Immunohistochemistry (FFPE): 1-2ug/ml
Limitations	This SOX4 Antibody PCRP-SOX4-1D6 / SOX4 Monoclonal Antibody is available for research use only.



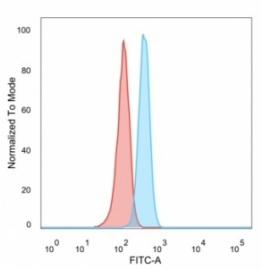
SOX4 Antibody PCRP-SOX4-1D6 by IHC in human breast carcinoma. Immunohistochemistry of formalin-fixed, paraffin-embedded human breast carcinoma tissue using SOX4 Antibody clone PCRP-SOX4-1D6. Brown immunoreactivity is visible in groups of carcinoma cells, with staining involving nuclear and cytoplasmic regions. The distribution is heterogeneous, with some tumor cells showing stronger staining than adjacent cells. Hematoxylin counterstaining highlights nuclei in blue. The SOX4 Monoclonal Antibody was applied following heat-induced epitope retrieval in 10 mM Tris containing 1 mM EDTA, pH 9, for 20 minutes, followed by cooling.



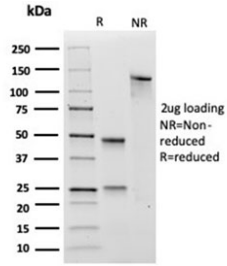
SOX4 Antibody PCRP-SOX4-1D6 by IHC in human colon carcinoma. Immunohistochemistry of formalin-fixed, paraffin-embedded human colon carcinoma tissue using SOX4 Antibody clone PCRP-SOX4-1D6. Brown immunoreactivity is distributed among epithelial cells forming glandular structures, with staining concentrated in portions of the glandular epithelium. The surrounding stromal tissue exhibits comparatively limited staining. Hematoxylin counterstaining provides blue nuclear contrast. The SOX4 Monoclonal Antibody was used following heat-induced epitope retrieval in 10 mM Tris containing 1 mM EDTA, pH 9, for 20 minutes, followed by cooling.



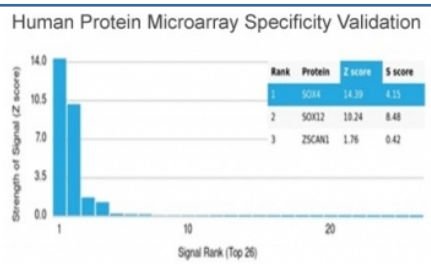
SOX4 Antibody PCRP-SOX4-1D6 by IF in HeLa cells. Immunofluorescence staining of paraformaldehyde-fixed human HeLa cells using SOX4 Antibody clone PCRP-SOX4-1D6, detected in green, with phalloidin counterstaining of filamentous actin in red. Green fluorescence is visible predominantly throughout the cytoplasmic regions of the cells, with a relatively diffuse distribution and limited apparent nuclear enrichment. The red phalloidin signal outlines the actin cytoskeleton and cellular boundaries. Although SOX4 is primarily characterized as a nuclear transcription factor, this image does not demonstrate a predominantly nuclear staining pattern. The observed distribution should therefore be interpreted cautiously when assessing the specificity of the SOX4 Monoclonal Antibody.



SOX4 Antibody PCRP-SOX4-1D6 by FACS in HeLa cells. Flow cytometric analysis of paraformaldehyde-fixed human HeLa cells using SOX4 Antibody clone PCRP-SOX4-1D6. The blue histogram represents antibody-stained cells, while the red histogram represents unstained cells. A rightward fluorescence shift is observed in the antibody-stained population, indicating increased fluorescence relative to the unstained control. The SOX4 Monoclonal Antibody was used to evaluate intracellular antigen detection by flow cytometry. This result demonstrates antibody-associated fluorescence under the tested conditions but does not independently establish discrimination between SOX4 and closely related SOXC family proteins.



SOX4 Antibody PCRP-SOX4-1D6 purity by SDS-PAGE. SDS-PAGE analysis of purified, BSA-free SOX4 Antibody clone PCRP-SOX4-1D6 under reduced (R) and non-reduced (NR) conditions. The reduced sample shows antibody chains migrating near the expected molecular weights of approximately 50 kDa and 25 kDa, corresponding to immunoglobulin heavy and light chains. The non-reduced sample exhibits a prominent higher-molecular-weight band near 150 kDa, consistent with intact immunoglobulin. Molecular weight standards are shown in the left lane. This analysis evaluates the integrity and purity of the SOX4 Monoclonal Antibody preparation rather than detection of endogenous SOX4 protein.



SOX4 Antibody PCRP-SOX4-1D6 by protein microarray. Protein Microarray Validated analysis of SOX4 Antibody clone PCRP-SOX4-1D6 using a HuProt human protein microarray containing more than 19,000 full-length proteins. The graph displays prominent binding signals for SOX4 and SOX12, with substantially lower signals for most other proteins represented in the analysis. The SOX4 Monoclonal Antibody therefore demonstrates recognition of its intended target but also measurable cross-reactivity with SOX12, another member of the SOXC transcription factor family. This result is particularly relevant when interpreting experiments involving tissues or cell populations that express both proteins, since antibody binding cannot be assumed to be exclusive to SOX4.

Description

SOX4 Antibody PCRP-SOX4-1D6 / SOX4 Monoclonal Antibody recognizes SRY-box transcription factor 4, a member of

the SOXC family of high-mobility group (HMG) box transcription factors. Encoded by the SOX4 gene, this nuclear protein regulates gene expression programs involved in embryonic development, cell differentiation, tissue organization, and cellular survival. SOX4 contains a conserved HMG DNA-binding domain that recognizes specific regulatory sequences and contributes to transcriptional control through interactions with other nuclear proteins.

SOX4 has important functions during organogenesis, particularly in the development of the nervous system, heart, skeletal structures, and immune system. Its activity influences cell fate decisions and the transition of progenitor cells toward specialized lineages. In developing tissues, SOX4 participates in regulatory networks that coordinate proliferation, differentiation, and survival. Its biological functions overlap with those of other SOXC family members, including SOX11 and SOX12, although these proteins exhibit differences in expression patterns and transcriptional activity.

In the immune system, SOX4 contributes to lymphocyte development and differentiation. Its expression has been investigated in hematopoietic progenitors and developing B-cell populations, where transcriptional regulation helps establish lineage-specific programs. SOX4 also participates in neural development, influencing neuronal differentiation and the organization of developing neural tissues. These functions illustrate its importance in maintaining appropriate developmental gene expression.

SOX4 is additionally associated with cancer biology. Elevated expression has been reported in several malignancies, including breast, prostate, colorectal, and lung cancers. Depending on cellular context, SOX4 may influence epithelial-mesenchymal transition, migration, invasion, and resistance to apoptosis. Its effects are not uniform across tumor types, making tissue-specific regulatory mechanisms important considerations when interpreting SOX4 expression.

NSJ Bioreagents provides SOX4 Antibody PCRP-SOX4-1D6 for investigating this developmentally regulated transcription factor. The SOX4 Monoclonal Antibody supports research examining transcriptional regulation, cellular differentiation, and SOX4-associated cancer pathways. Because SOX4 and SOX12 share conserved structural features, antibody specificity should be considered carefully when interpreting experimental results involving closely related SOXC proteins.

Explore our Transcription Factor Antibodies collection for additional research tools targeting SOX family proteins and other regulators of gene expression, cellular differentiation, and cancer-associated signaling.

Application Notes

Optimal dilution of the SOX4 antibody should be determined by the researcher.

Immunogen

A portion of amino acids 45-130 was used as the immunogen for the SOX4 antibody.

Storage

Aliquot the SOX4 Antibody PCRP-SOX4-1D6 / SOX4 Monoclonal Antibody and store frozen at -20oC or colder. Avoid repeated freeze-thaw cycles.

Alternate Names

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

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