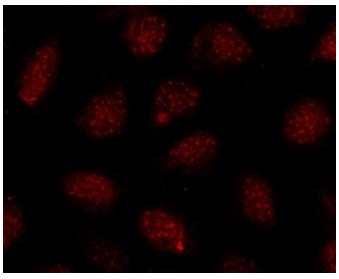
SOX10 Polyclonal Antibody (RQ8265)

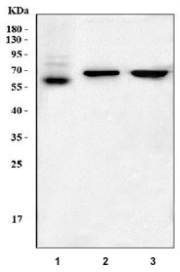
Catalog No.	Formulation	Size
RQ8265	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

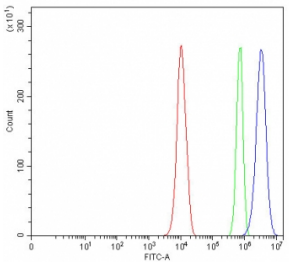
Availability	1-3 business days
Species Reactivity	Human, Mouse, Rat
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Purity	Antigen affinity purified
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	P56693
Localization	Nuclear
Applications	Western blot: 0.5-1ug/ml Immunofluorescence: 5ug/ml Flow cytometry: 1-3ug/million cells Direct ELISA: 0.1-0.5ug/ml
Limitations	This SOX10 Polyclonal Antibody is available for research use only.



SOX10 Polyclonal Antibody by IF in Human U-2 OS Cells. Immunofluorescence staining of FFPE human U-2 OS cells using rabbit polyclonal SOX10 antibody. Heat-induced epitope retrieval was performed by steaming sections in citrate buffer at pH 6 for 20 minutes. Red fluorescence is concentrated predominantly within cell nuclei, with a heterogeneous, finely punctate distribution and comparatively little cytoplasmic staining. This pattern is consistent with the nuclear localization of SRY-Box Transcription Factor 10.



SOX10 Polyclonal Antibody by WB in Human, Rat, and Mouse Samples. Western blot analysis using rabbit polyclonal SOX10 antibody. Lane 1: human A375 melanoma cell lysate; lane 2: rat brain lysate; lane 3: mouse brain lysate. Prominent immunoreactive bands are detected at approximately 75-80 kDa in all three samples, above the expected molecular weight of 50-58 kDa for SRY-Box Transcription Factor 10. The human A375 sample also exhibits a weaker band at a slightly lower molecular weight. SOX10 has been reported to undergo phosphorylation and exhibit multiple electrophoretic forms, which may contribute to differences in apparent molecular weight.



SOX10 Polyclonal Antibody by FACS in Human PC-3 Cells. Flow cytometry analysis of fixed and permeabilized human PC-3 cells using rabbit polyclonal SOX10 antibody at 1 ug per million cells. Cells were blocked with goat serum before antibody staining. The histogram compares SOX10 antibody staining (blue), isotype control (green), and unstained cells (red). The antibody-stained population exhibits a pronounced rightward fluorescence shift relative to both controls, demonstrating intracellular detection of SRY-Box Transcription Factor 10.

Description

SOX10 Polyclonal Antibody recognizes SOX10, a transcription factor belonging to the SRY-related high-mobility-group box family of DNA-binding proteins. Also known as SRY-Box Transcription Factor 10, SOX10 regulates gene expression programs involved in embryonic development, neural crest differentiation, and cellular lineage specification. This nuclear protein contains a conserved high-mobility-group (HMG) domain that enables DNA binding and contributes to transcriptional regulation. SOX10 is particularly important in melanocytes, Schwann cells, oligodendrocytes, and developing peripheral nervous system structures.

During embryogenesis, SOX10 regulates the survival, migration, and differentiation of neural crest-derived progenitor cells. It cooperates with other transcription factors to establish specialized cellular identities, including melanocytes and peripheral glial cells. In melanocyte development, SOX10 promotes expression of microphthalmia-associated transcription factor (MITF), a major regulator of melanocyte differentiation and pigmentation. Disruption of this transcriptional network can interfere with melanocyte development and contribute to pigmentation abnormalities.

SOX10 also plays an essential role in nervous system development and myelination. In Schwann cells, it coordinates transcriptional programs required for peripheral nerve maturation and myelin formation. Within the central nervous system, SOX10 contributes to oligodendrocyte differentiation and the expression of myelin-associated genes. These functions make SRY-Box Transcription Factor 10 an important marker for investigating glial lineage development, neural crest biology, and nervous system organization.

In cancer research, SOX10 is widely studied as a marker of melanocytic differentiation. Many melanomas retain nuclear SOX10 expression, making the protein useful for investigating melanocytic tumors and their biological characteristics. SOX10 is also expressed in certain peripheral nerve sheath tumors and subsets of breast and salivary gland carcinomas. Its expression is therefore not exclusive to melanoma, and interpretation requires consideration of additional markers and tissue characteristics.

Pathogenic variants in the SOX10 gene are associated with neurocristopathies, including Waardenburg syndrome and Waardenburg-Shah syndrome. These conditions may involve pigmentation abnormalities, hearing impairment, and intestinal aganglionosis, reflecting the protein's importance in neural crest-derived tissues. SOX10 is also investigated in melanoma progression, cellular plasticity, and changes in differentiation state.

A SOX10 Polyclonal Antibody from NSJ Bioreagents supports research investigating SRY-Box Transcription Factor 10 expression, neural crest differentiation, glial development, melanocytic lineage identity, and SOX10-associated disorders.

For a recombinant monoclonal alternative targeting the same transcription factor, see our SOX10 Antibody rSOX10/1074 (V3563), featuring WB, IHC, and protein microarray validation.

Application Notes

Optimal dilution of the SOX10 Polyclonal Antibody should be determined by the researcher.

Immunogen

An E.coli-derived human recombinant protein (R178-L301) was used as the immunogen for the SOX10 Polyclonal Antibody.

Storage

After reconstitution, the SOX10 Polyclonal Antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

Alternate Names

SRY-Box Transcription Factor 10 antibody, SRY-Box 10 antibody, SRY-Related HMG-Box 10 antibody, SOX-10 antibody, SOX 10 antibody, Transcription Factor SOX10 antibody, SRY-Box Protein 10 antibody

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