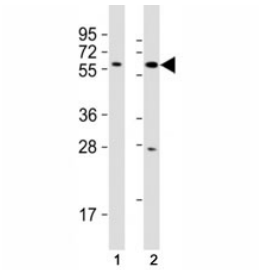
SOX10 Rabbit Polyclonal Antibody (F49359)

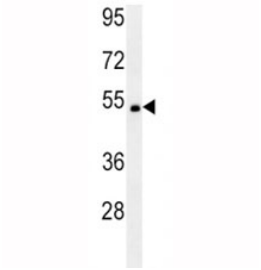
Catalog No.	Formulation	Size
F49359-0.4ML	In 1X PBS, pH 7.4, with 0.09% sodium azide	0.4 ml
F49359-0.08ML	In 1X PBS, pH 7.4, with 0.09% sodium azide	0.08 ml

Bulk quote request

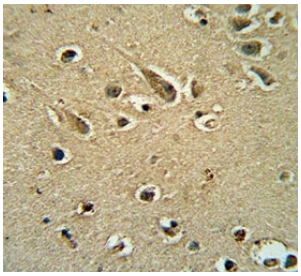
Availability	1-3 business days
Species Reactivity	Human, Mouse, Rat
Predicted Reactivity	Rat, Pig
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit Ig
Purity	Antigen affinity
UniProt	P56693
Localization	Nuclear, cytoplasmic
Applications	Western blot: 1:2000 IHC (Paraffin): 1:10-1:50
Limitations	This SOX10 Rabbit Polyclonal Antibody is available for research use only.



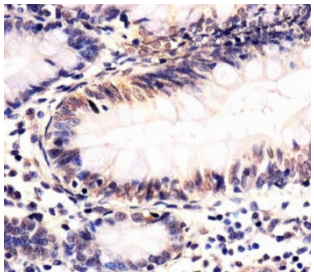
SOX10 Rabbit Polyclonal Antibody by WB in Rat C6 and Human A375 Cell Lysates. Western blot analysis of rat C6 glioma cell lysate (lane 1) and human A375 melanoma cell lysate (lane 2) using SOX10 Rabbit Polyclonal Antibody at 1:2000 dilution. A prominent immunoreactive band is detected near 55 kDa in the A375 lysate, consistent with the predicted molecular weight of 50-58 kDa for SOX10. Additional lower-molecular-weight immunoreactivity is visible in the A375 sample.



SOX10 Rabbit Polyclonal Antibody by WB in Mouse Heart Lysate. Western blot analysis of mouse heart tissue lysate using SOX10 Rabbit Polyclonal Antibody. An immunoreactive band is observed near 55 kDa, consistent with the predicted molecular weight range of 50-58 kDa for SRY-Box Transcription Factor 10.



SOX10 Rabbit Polyclonal Antibody by IHC in Human Brain Tissue. Immunohistochemistry staining of FFPE human brain tissue using SOX10 Rabbit Polyclonal Antibody. Brown immunoreactivity is observed in scattered cells and surrounding tissue, with staining visible in both nuclear and extranuclear regions. SOX10 is a transcription factor involved in glial development and differentiation.



SOX10 Rabbit Polyclonal Antibody by IHC in Human Colon Tissue. Immunohistochemistry staining of FFPE human colon tissue using SOX10 Rabbit Polyclonal Antibody. Heat-induced epitope retrieval was performed by boiling sections in 10 mM citrate buffer at pH 6 for 10-20 minutes, followed by cooling at room temperature for 20 minutes. Brown immunoreactivity is observed in portions of the glandular epithelium, with comparatively limited staining in surrounding tissue.

Description

SOX10 Rabbit Polyclonal Antibody recognizes SOX10, a nuclear transcription factor belonging to the SRY-related high-mobility-group (HMG) box family of DNA-binding proteins. Also known as SRY-Box Transcription Factor 10, SOX10 regulates gene expression programs involved in neural crest development, cellular differentiation, and nervous system formation. The protein contains a conserved HMG DNA-binding domain that enables interactions with regulatory DNA sequences. SOX10 is particularly important in melanocytes, Schwann cells, oligodendrocytes, and other specialized cell populations derived from neural crest progenitors.

During embryonic development, SOX10 helps regulate the survival, migration, and differentiation of neural crest-derived cells. It cooperates with other transcription factors to establish distinct cellular lineages, including melanocytes and peripheral glial cells. In melanocyte development, SOX10 promotes expression of microphthalmia-associated transcription factor (MITF), a major regulator of pigmentation and melanocyte differentiation. Disruption of this regulatory pathway can impair melanocyte development and contribute to pigmentation abnormalities.

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

In cancer research, SOX10 is widely studied as a marker of melanocytic differentiation. Many melanomas exhibit nuclear SOX10 expression, making the protein useful for investigating melanocytic tumors and their biological characteristics. SOX10 is also expressed in peripheral nerve sheath tumors and certain breast and salivary gland carcinomas. Because its expression is not restricted to melanoma, immunohistochemical findings must be interpreted alongside tissue morphology and additional lineage-associated markers.

Pathogenic variants in the SOX10 gene are associated with neurocristopathies, including Waardenburg syndrome and Waardenburg-Shah syndrome. These disorders may involve pigmentation abnormalities, hearing impairment, and intestinal aganglionosis, reflecting the importance of SOX10 in neural crest-derived tissues. Altered SOX10 expression is also investigated in melanoma progression, tumor cell plasticity, and changes in differentiation state.

A SOX10 Rabbit 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

Titration of the SOX10 Rabbit Polyclonal Antibody may be required due to differences in protocols and secondary/substrate sensitivity.

Immunogen

A portion of amino acids 231-259 from the human protein was used as the immunogen for this SOX10 Rabbit Polyclonal Antibody.

Storage

Aliquot the SOX10 Rabbit Polyclonal Antibody and store frozen at -20oC or colder. Avoid repeated freeze-thaw cycles.

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