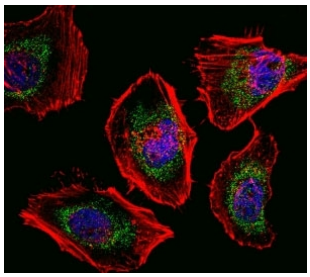
SOX4 Rabbit Polyclonal Antibody / SRY Box 4 Antibody (F47903)

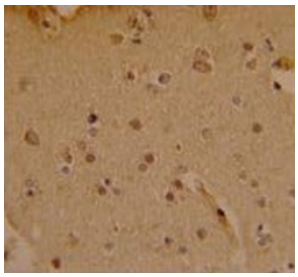
Catalog No.	Formulation	Size
F47903-0.4ML	In 1X PBS, pH 7.4, with 0.09% sodium azide	0.4 ml
F47903-0.08ML	In 1X PBS, pH 7.4, with 0.09% sodium azide	0.08 ml

Bulk quote request

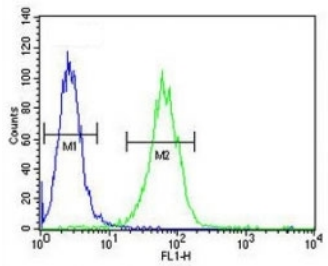
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit Ig
Purity	Purified
UniProt	Q06945
Localization	Nuclear, cytoplasmic
Applications	Western blot: 1:1000 IHC (Paraffin): 1:50-1:100 Flow Cytometry: 1:10-1:50 Immunofluorescence: 1:10-1:50
Limitations	This SOX4 Rabbit Polyclonal Antibody / SRY Box 4 Antibody is available for research use only.



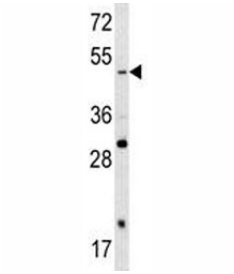
SOX4 Rabbit Polyclonal Antibody by IF in HeLa cells. Immunofluorescence staining of human HeLa cells using SOX4 Rabbit Polyclonal Antibody, with Alexa Fluor 488-conjugated secondary antibody detection in green. The image shows green fluorescence distributed in punctate and granular structures within the cytoplasm, with comparatively weak nuclear staining. Red fluorescence outlines the cytoskeletal architecture, while nuclei are counterstained blue. The extranuclear distribution differs from the predominantly nuclear localization expected for SOX4 as a transcription factor. Although the product description associates the green signal with mitochondria, the image alone does not establish mitochondrial localization or confirm that the observed cytoplasmic staining represents endogenous SOX4.



SOX4 Rabbit Polyclonal Antibody by IHC in human brain. Immunohistochemistry of formalin-fixed, paraffin-embedded human brain tissue using SOX4 Rabbit Polyclonal Antibody. Brown immunoreactivity is visible in scattered cells throughout the tissue section, with staining involving cellular regions surrounding darker nuclei. Some cells exhibit stronger staining than adjacent tissue elements, producing a heterogeneous distribution. The SRY Box 4 Antibody is used here to examine immunoreactivity in neural tissue, where SOX4 participates in developmental transcriptional regulation. The observed staining pattern should be interpreted alongside appropriate specificity controls because the image does not independently establish the identity of the detected antigen.



SOX4 Rabbit Polyclonal Antibody by FACS in A2058 cells. Flow cytometric analysis of human A2058 cells using SOX4 Rabbit Polyclonal Antibody and a FITC-conjugated goat anti-rabbit secondary antibody. The green histogram represents antibody-stained cells, while the blue histogram represents the negative control. A pronounced rightward fluorescence shift is observed in the antibody-stained population, indicating increased fluorescence relative to the control. The SRY Box 4 Antibody produces a distinct positive signal under the tested conditions, supporting its use in flow cytometric analysis. However, this experiment does not independently establish specificity against other SOXC transcription factors.



SOX4 Rabbit Polyclonal Antibody by WB in A2058 cells. Western blot analysis of human A2058 cell lysate using SOX4 Rabbit Polyclonal Antibody. A band is detected near 47 kDa, consistent with the expected molecular weight of human SOX4. Additional bands are visible at lower molecular weights, including signals near approximately 30 kDa and 20 kDa. The identities of these additional bands have not been established. The SRY Box 4 Antibody demonstrates recognition of a protein migrating near the predicted SOX4 molecular weight, although the presence of additional bands should be considered when evaluating antibody specificity and interpreting western blot results.

Description

SOX4 Rabbit Polyclonal Antibody / SRY Box 4 Antibody recognizes SRY-box transcription factor 4, a DNA-binding protein belonging to the SOXC subgroup of the SOX transcription factor family. SOX4 contains a conserved high-mobility group (HMG) domain that recognizes regulatory DNA sequences and participates in transcriptional programs governing cellular differentiation, tissue development, and survival. The protein is particularly important during embryogenesis, when coordinated changes in gene expression establish specialized cell populations and developing organ systems.

SOX4 contributes to the development of the central nervous system, where it participates in neuronal differentiation and maturation. Together with related SOXC proteins, particularly SOX11, it regulates transcriptional networks involved in neuronal identity and the progression of neural progenitors toward differentiated states. SOX4 expression has also been investigated in neural stem and progenitor populations, where its activity can influence the balance between proliferation and differentiation.

In skeletal development, SOX4 participates in regulatory pathways associated with osteoblast differentiation and bone formation. Its transcriptional activity has been linked to cellular responses involving parathyroid hormone-related signaling, although these effects depend on developmental stage and cellular context. SOX4 also contributes to cardiovascular development and the establishment of normal tissue architecture during embryogenesis.

Beyond development, SOX4 has been studied extensively in cancer. Increased expression occurs in several epithelial malignancies, where the protein may influence proliferation, migration, invasion, and epithelial-mesenchymal transition. SOX4 can participate in transcriptional networks associated with Wnt signaling and other pathways that regulate tumor cell behavior. Nevertheless, its biological consequences differ among tumor types, and elevated expression does not necessarily indicate the same functional outcome in every malignancy.

NSJ Bioreagents provides SOX4 Rabbit Polyclonal Antibody for research involving human SOX4 expression and transcriptional regulation. Generated against an amino acid sequence within the HMG DNA-binding region, this antibody offers an alternative reagent for investigating developmental and cancer-associated expression patterns. Because SOXC family members share substantial sequence conservation within this domain, potential recognition of related proteins should be considered when interpreting experimental findings. The SRY Box 4 Antibody is relevant to studies of neural differentiation, tissue development, and transcriptional changes associated with malignancy.

Application Notes

Titration of the SOX4 Rabbit Polyclonal Antibody / SRY Box 4 Antibody may be required due to differences in protocols and secondary/substrate sensitivity.

Immunogen

A portion of amino acids 86-114 from the human protein was used as the immunogen for this SOX4 antibody.

Storage

Aliquot the SOX4 antibody and store frozen at -20oC or colder. Avoid repeated freeze-thaw cycles.

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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