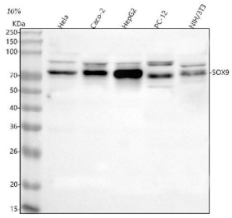
SOX9 Antibody / SRY-box transcription factor 9 (FY13180)

Catalog No.	Formulation	Size
FY13180	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

Availability	1-2 days
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	P48436
Applications	Western Blot : 0.25-0.5ug/ml ELISA : 0.1-0.5ug/ml
Limitations	This SOX9 antibody is available for research use only.



Western blot analysis of SOX9 using anti-SOX9 antibody. Lane 1: human Hela whole cell lysates, Lane 2: human Caco-2 whole cell lysates, Lane 3: human HepG2 whole cell lysates, Lane 4: rat PC-12 whole cell lysates, Lane 5: mouse NIH/3T3 whole cell lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-SOX9 antibody at 0.5 ug/ml overnight at 4oC, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal was developed using enhanced chemiluminescent. Western blot detection of SOX9 shows a major band at ~75 kDa with a minor band at ~80-85 kDa across multiple human cell lines. Although the calculated mass is ~56 kDa, SOX9 commonly migrates larger, and the upper species likely reflects additional post-translationally modified forms.

Description

SOX9 antibody detects SRY-box transcription factor 9, a transcriptional regulator that controls chondrogenesis, sex determination, and stem cell maintenance. The UniProt recommended name is SRY-box transcription factor 9 (SOX9).

This protein belongs to the SOX (SRY-related HMG-box) family of transcription factors, characterized by a high-mobility group DNA-binding domain that recognizes specific enhancer sequences.

Functionally, SOX9 antibody identifies a 509-amino-acid nuclear protein that binds to promoter and enhancer regions of cartilage-specific genes such as COL2A1 and ACAN. SOX9 forms dimers through its HMG domain and recruits transcriptional coactivators to drive cartilage matrix production and skeletal formation. It also plays roles in sex differentiation by activating AMH (anti-MÃ¯Â¿Â½llerian hormone) transcription during gonadal development.

The SOX9 gene is located on chromosome 17q24.3 and is expressed in developing cartilage, gonads, and neural crest-derived tissues. SOX9 is a master regulator of chondrocyte differentiation and is essential for maintaining progenitor cell identity in multiple lineages.

Pathologically, mutations or haploinsufficiency of SOX9 cause campomelic dysplasia, a severe skeletal malformation syndrome with sex reversal. Aberrant SOX9 expression also contributes to cancer progression and tissue fibrosis. Research using SOX9 antibody supports studies in developmental biology, transcription regulation, and regenerative medicine.

SOX9 antibody is validated for western blotting, immunofluorescence, and immunohistochemistry to detect transcription factors involved in chondrogenesis and lineage specification. NSJ Bioreagents provides SOX9 antibody reagents optimized for studies in cartilage biology, stem cell differentiation, and developmental genetics.

Structurally, SRY-box transcription factor 9 contains an HMG DNA-binding domain and transactivation regions that mediate chromatin remodeling and transcriptional activation. This antibody supports detailed analysis of SOX9's regulatory mechanisms in development and disease.

Application Notes

Optimal dilution of the SOX9 antibody should be determined by the researcher.

Immunogen

E.coli-derived human SOX9 recombinant protein (Position: M1-Q496) was used as the immunogen for the SOX9 antibody.

Storage

After reconstitution, the SOX9 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.