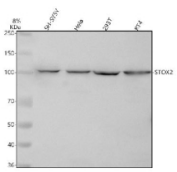
STOX2 Antibody / Storkhead box protein 2 (FY13336)

Catalog No.	Formulation	Size
FY13336	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
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	Q9P2F5
Applications	Western Blot: 0.25-0.5ug/ml ELISA: 0.1-0.5ug/ml
Limitations	This STOX2 antibody is available for research use only.



Western blot analysis of STOX2 using anti-STOX2 antibody. Lane 1: human SH-SY5Y whole cell lysates, Lane 2: human Hela whole cell lysates, Lane 3: human 293T whole cell lysates, Lane 4: human RT4 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-STOX2 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. A specific band was detected for STOX2 at approximately 102 kDa. The expected molecular weight of STOX2 is ~102 kDa.

Description

STOX2 antibody detects Storkhead box protein 2, a nuclear transcription factor encoded by the STOX2 gene located on chromosome 4q35.1. STOX2 belongs to the storkhead box protein family, characterized by winged-helix (forkhead-like) DNA-binding domains, and functions primarily in transcriptional regulation during embryonic development and placental differentiation. It is expressed in brain, placenta, and reproductive tissues, with developmental expression patterns

suggesting a key role in early organogenesis and epithelial cell specification.

STOX2 regulates gene networks involved in cell differentiation, extracellular matrix formation, and immune modulation. As a nuclear transcription factor, it binds promoter and enhancer regions to modulate expression of developmental and hormonal response genes. STOX2 expression increases during embryogenesis and trophoblast development, indicating a function in maternal-fetal interface establishment. In adult tissues, it remains expressed in epithelial and endothelial cells, maintaining homeostasis and tissue-specific gene expression.

Structurally, STOX2 contains a winged-helix DNA-binding domain typical of forkhead-like transcription factors, along with transactivation domains in its C-terminus that recruit transcriptional coactivators. It belongs to the storkhead box protein family, which includes STOX1Ã¯Â¿Â½a transcription factor associated with preeclampsiaÃ¯Â¿Â½highlighting shared regulatory mechanisms in placental and vascular development. STOX2 may co-localize with transcriptional regulators such as SMADs in TGF-beta signaling, influencing epithelial differentiation and growth factor response.

Functionally, STOX2 contributes to placental morphogenesis and vascular remodeling. Its regulatory role in epithelial-mesenchymal transitions (EMT) and matrix deposition suggests involvement in tissue remodeling and wound repair. STOX2 may also modulate immune tolerance mechanisms at the maternal-fetal interface, ensuring proper placental development. In the nervous system, developmental expression studies show STOX2 activity during neuronal lineage specification, indicating broader roles beyond placentation.

Dysregulation of STOX2 expression has been associated with pregnancy-related disorders such as preeclampsia and intrauterine growth restriction. Aberrant promoter methylation or altered transcriptional regulation can disrupt placental gene networks. In cancer, reduced STOX2 levels have been linked to loss of epithelial integrity, while overexpression may contribute to tumor invasion through EMT activation. Pathway associations include TGF-beta signaling, Wnt signaling, and gene regulatory pathways governing developmental morphogenesis.

STOX2 antibody from NSJ Bioreagents serves as a reliable tool for investigating developmental transcriptional regulation, placental biology, and disease mechanisms involving epithelial differentiation.

Application Notes

Optimal dilution of the STOX2 antibody should be determined by the researcher.

Immunogen

E.coli-derived human STOX2 recombinant protein (Position: D57-K659) was used as the immunogen for the STOX2 antibody.

Storage

After reconstitution, the STOX2 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

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