SOX-2 Mouse mAb

Catalog#: AM0594 | Size: 30μL/50μL/100μL

Main Information

Target	Host Species	Reactivity	Application	MW	Conjugated/Modification
SOX-2	Mouse	Human	WB, IHC, IF, ELISA	34kD (Calculated)	Unmodified

Detailed Information

Recommeded Dilution Ratio	WB 1:500-1:2000; IHC 1:200-1:1000; IF 1:200-1:1000; ELISA 1:10000; Not yet tested in other applications.
Formulation	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide.
Specificity	SOX-2 Monoclonal Antibody detects endogenous levels of SOX-2 protein.
Purification	Affinity purification
Storage	-15°C to -25°C/1 year(Do not lower than -25°C)
MW(Calculated)	34kD
Modification	Unmodified
Clonality	Monoclonal

Antigen&Target Information

Immunogen	Purified recombinant fragment of human SOX-2 expressed in E. Coli.
Specificity	SOX-2 Monoclonal Antibody detects endogenous levels of SOX-2 protein.
Gene Name	SOX2
Protein Name	Transcription factor SOX-2
Other Name	SOX2 ;Transcription factor SOX-2

Database Link

Organism	Gene ID	SwissProt
Human	6657	P48431
Mouse		P48432

Background

SRY-box 2(SOX2) Homo sapiens This intronless gene encodes a member of the SRY-related HMG-box (SOX) family of transcription factors involved in the regulation of embryonic development and in the determination of cell fate. The product of this gene is required for stem-cell maintenance in the central nervous system, and also regulates gene expression in the stomach. Mutations in this gene have been associated with optic nerve hypoplasia and with syndromic microphthalmia, a severe form of structural eye malformation. This gene lies within an intron of another gene called SOX2 overlapping transcript (SOX2OT). [provided by RefSeq, Jul 2008].

Function

Disease:Defects in SOX2 are the cause of microphthalmia syndromic type 3 (MCOPS3) [MIM:206900]. Microphthalmia is a clinically heterogeneous disorder of eye formation, ranging from small size of a single eye to complete bilateral absence of ocular tissues (anophthalmia). In many cases, microphthalmia/anophthalmia occurs in association with syndromes that include non-ocular abnormalities. MCOPS3 is characterized by the rare association of malformations including uni- or bilateral anophthalmia or microphthalmia, and esophageal atresia with trachoesophageal fistula.,Function:Transcription factor that forms a trimeric complex with OCT4 on DNA and controls the expression of a number of genes involved in embryonic development such as YES1, FGF4, UTF1 and ZFP206. Critical for early embryogenesis and for embryonic stem cell pluripotency.,online information:Sox2 entry,PTM:Sumoylation inhibits binding on DNA and negatively regulates the FGF4 transactivation.,similarity:Contains 1 HMG box DNA-binding domain.

Cellular Localization

Nucleus speckle . Cytoplasm . Nucleus . Acetylation contributes to its nuclear localization and deacetylation by HDAC3 induces a cytoplasmic delocalization (By similarity). Colocalizes in the nucleus with ZNF208 isoform KRAB-O and tyrosine hydroxylase (TH) (By similarity). Colocalizes with SOX6 in speckles. Colocalizes with CAML in the nucleus (By similarity). Nuclear import is facilitated by XPO4, a protein that usually acts as a nuclear export signal receptor (By similarity).

Tissue Expression

Fetal brain,Lung,Retina.

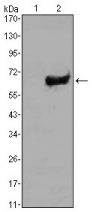
Research Areas

- Hippo signaling pathway
- Signaling pathways regulating pluripotency of stem cells

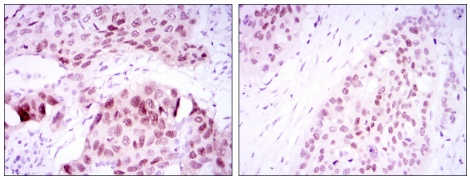
Signaling Pathway

Cellular Processes >> Cellular community - eukaryotes >> Signaling pathways regulating pluripotency of stem cells
Environmental Information Processing >> Signal transduction >> Hippo signaling pathway

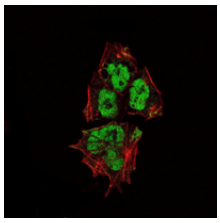
Validation Data



Western Blot analysis using SOX-2 Monoclonal Antibody against HEK293 (1) and SOX2-hIgGFc transfected HEK293 (2) cell lysate.



Immunohistochemistry analysis of paraffin-embedded lung cancer tissues (left) and esophageal cancer tissues (right) with DAB staining using SOX-2 Monoclonal Antibody.



Immunofluorescence analysis of NTERA-2 cells using SOX-2 Monoclonal Antibody (green). Red: Actin filaments have been labeled with Alexa Fluor-555 phalloidin.

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