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Anti-SOX2 (Transcription Factor) Antibody

Mouse Monoclonal Antibody
Catalog # AH13512

Product Information

Application	WB, IHC-P, IF, FC, E
Primary Accession	P48431
Other Accession	518438
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Isotype	Mouse / IgG2b, kappa
Clone Names	SOX2/1791
Calculated MW	34310

Additional Information

Gene ID	6657
Other Names	ANOP3; Delta EF2a; MCOPS3 (Microphthalmia Syndromic type 3); SOX-2; SRY (sex determining region Y) box 2; SRY related HMG box 2; Transcription factor SOX-2; ysb
Application Note	ELISA (Use Ab at 2-4ug/ml for coating) (Order Ab without BSA); ,Flow Cytometry (0.5-1ug/million cells); Immunofluorescence (1-2ug/ml); ,Western Blotting (0.5-1ug/ml); ,Immunohistology (Formalin-fixed) (0.5-1ug/ml for 30 min at RT),(Staining of formalin-fixed tissues requires boiling tissue sections in 10mM Citrate Buffer, pH 6.0, for 10-20 min followed by cooling at RT for 20 minutes),Optimal dilution for a specific application should be determined.
Format	200ug/ml of Ab purified from Bioreactor Concentrate by Protein A/G. Prepared in 10mM PBS with 0.05% BSA & 0.05% azide. Also available WITHOUT BSA & azide at 1.0mg/ml.
Storage	Store at 2 to 8°C.Antibody is stable for 24 months.
Precautions	Anti-SOX2 (Transcription Factor) Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

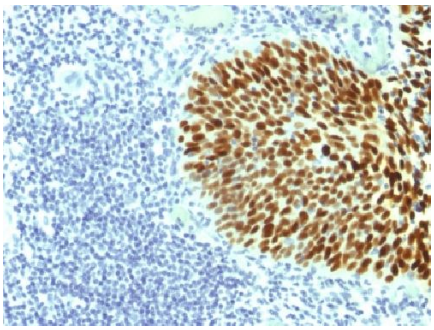
Name	SOX2
Function	Transcription factor that forms a trimeric complex with OCT4 on DNA and controls the expression of a number of genes involved in embryonic development such as YES1, FGF4, UTF1 and ZFP206 (By similarity). Binds to

	the proximal enhancer region of NANOG (By similarity). Critical for early embryogenesis and for embryonic stem cell pluripotency (PubMed:18035408). Downstream SRRT target that mediates the promotion of neural stem cell self-renewal (By similarity). Keeps neural cells undifferentiated by counteracting the activity of proneural proteins and suppresses neuronal differentiation (By similarity). May function as a switch in neuronal development (By similarity).
Cellular Location	Nucleus speckle {ECO:0000250|UniProtKB:Q05066}. Cytoplasm {ECO:0000250|UniProtKB:Q05738}. Nucleus {ECO:0000250|UniProtKB:Q05738}. Note=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) {ECO:0000250|UniProtKB:Q05066, ECO:0000250|UniProtKB:Q05738}

Background

SOX2 is 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. At present, 30 Sox genes have been identified. SOX2 is required for stem cell maintenance in the central nervous system, and it also regulates gene expression in the stomach. SOX2 is necessary for regulating multiple transcription factors that affect Oct 3/4 expression. An essential function of SOX2 is to stabilize embryonic stem cells in a pluripotent state by maintaining the requisite level of Oct 3/4 expression.

Images



Formalin-fixed, paraffin-embedded Human Cervical Carcinoma stained with SOX2 Monoclonal Antibody (SOX2/1791).