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SOX2 Antibody (N-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP2048D

Product Information

Application	WB, IHC-P, IF, FC, E
Primary Accession	P48431
Other Accession	Q6EJB7, O42569, P48432, Q6P0E1, P48430, Q2PG84, P53783, O00570, O57401, Q2Z1R2, Q6DGL6
Reactivity	Human
Predicted	Zebrafish, Chicken, Mouse, Xenopus, Rat, Bovine, Canine, Rabbit
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	34310
Antigen Region	89-119

Additional Information

Gene ID	6657
Other Names	Transcription factor SOX-2, SOX2
Target/Specificity	This SOX2 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 89-119 amino acids from the N-terminal region of human SOX2.
Dilution	WB~~1:1000 IHC-P~~1:100~500 IF~~1:10~50 FC~~1:10~50 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	SOX2 Antibody (N-term) 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}

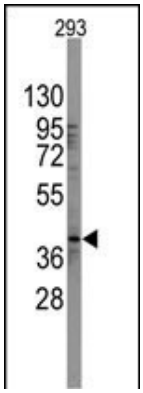
Background

The intronless gene for SOX2 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 encoded protein may act as a transcriptional activator after forming a protein complex with other proteins. Mutations in the SOX2 gene have been associated with bilateral anophthalmia, a severe form of structural eye malformation.

References

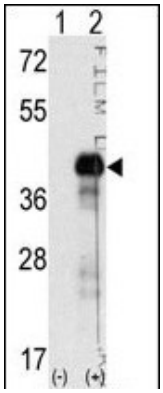
Remenyi, A., et al., Genes Dev. 17(16):2048-2059 (2003).
Wiebe, M.S., et al., J. Biol. Chem. 278(20):17901-17911 (2003).
Fantes, J., et al., Nat. Genet. 33(4):461-463 (2003).
Schepers, G.E., et al., Dev. Cell 3(2):167-170 (2002).
Kamachi, Y., et al., Trends Genet. 16(4):182-187 (2000).

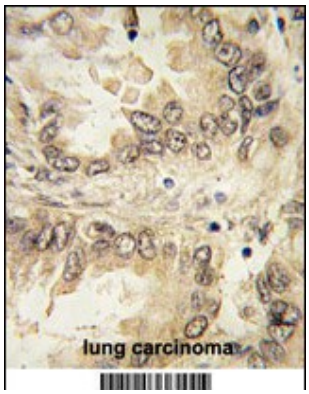
Images



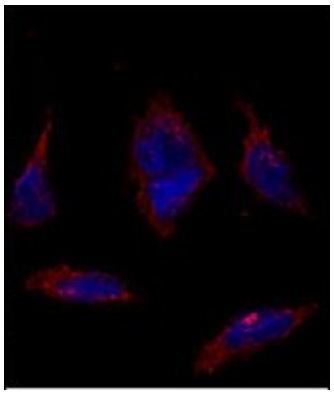
Western blot analysis of SOX2 Antibody (N-term) in 293 cell line lysates (35ug/lane). SOX2(arrow) was detected using the purified Pab.

Western blot analysis of SOX2 (arrow) using rabbit polyclonal SOX2 Antibody (N-term) (Cat.#AP2048d). 293 cell lysates (2 ug/lane) either nontransfected (Lane 1) or transiently transfected with the SOX2 gene (Lane 2) (Origene Technologies).

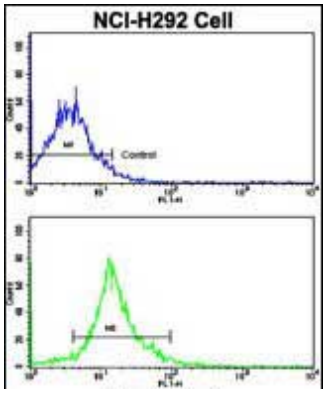




Formalin-fixed and paraffin-embedded human lung carcinoma tissue reacted with SOX2 antibody (N-term) (Cat.#AP2048d), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.



Immunofluorescence analysis of SOX2 Antibody (N-term) (Cat.#AP2048d) in HeLa cells. 0.025 mg/ml primary antibody was followed by Alexa-Fluor-546-conjugated donkey anti-rabbit IgG (H+L). Alexa-Fluor-546 emits orange fluorescence. Blue counterstaining is DAPI.



Flow cytometric analysis of NCI-H292 cells using SOX2 Antibody (N-term)(bottom histogram) compared to a negative control cell (top histogram). FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.

Citations

- Inhibition of excessive mitochondrial fission reduced aberrant autophagy and neuronal damage caused by LRRK2 G2019S mutation.
- MicroRNA-124 and -137 cooperativity controls caspase-3 activity through BCL2L13 in hippocampal neural stem cells.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.