Qty: 100 µg/400 µL

Rabbit anti-SOX2

Catalog No. 48-1400

Lot No.

Rabbit anti-SOX2

FORM
This polyclonal antibody is supplied as a 400 µL aliquot at a concentration of 0.25 mg/mL in phosphate buffered saline (pH 7.4) containing 0.1% sodium azide. This antibody is epitope-affinity purified from rabbit antiserum.

PAD: ZMD.680

IMMUNOGEN
Synthetic peptide derived from the N-terminal region of the human SOX2 protein (Accession# NP_003097.1, P48431), which is 94% homologous to mouse and rat.

SPECIFICITY
This antibody is specific for the SOX2 (SRY (sex determining region Y)-box 2, ANOP3, MCOPS3) protein. On Western blots, it identifies the target band at ~35 kDa.

REACTIVITY
Reactivity has been confirmed with HEK 293T cell lysates transfected with human SOX2 cDNA (Invitrogen Ultimate™ ORF Clone, Cat# IOH13706), human NTERA-2 and mouse fetal brain homogenates. Based on amino acid sequence homology, reactivity with rat is expected.

Sample	Western Blotting	Immuno-precipitation	Immuno-cytochemistry
Human	+++	+++	+++
Mouse	+++	+++	+++
Rat	ND	ND	ND

(Excellent +++, Good++, Poor +, No reactivity 0, Not applicable N/A, Not Determined ND)

USAGE
Working concentrations for specific applications should be determined by the investigator. Appropriate concentrations will be affected by several factors, including secondary antibody affinity, antigen concentration, sensitivity of detection method, temperature and length of incubations, etc. The suitability of this antibody for applications other than those listed below has not been determined. The following concentration ranges are recommended starting points for this product.

Western Blotting: 1-3 µg/mL
Immunoprecipitation: 5 µg/IP reaction
Immunocytochemistry: 2-3 µg/mL

STORAGE
Store at 2-8°C for up to one month. Store at –20°C for long-term storage. Avoid repeated freezing and thawing.

(cont'd)

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.[1] Mutations in this protein have been associated with bilateral anophthalmia, a severe form of structural eye malformation.[2]

The SOX2 mutant mice had a range of eye phenotypes, the severity of which directly related to the level of SOX2 expression in neural retinal progenitor cells. Retinal progenitor cells with conditionally ablated SOX2 lost competence both to proliferate and to differentiate terminally. Mice with less than 40% of normal SOX2 expression in the neural retina showed variable microphthalmia as a result of aberrant neural progenitor differentiation.[3] These results indicate that precise regulation of SOX2 dosage is critical for temporal and spatial regulation of retinal progenitor cell differentiation.[3,4]

REFERENCES

1. Bylund M, et al. *Nat Neurosci* 6(11):1162-1168, 2003.
2. Fantes J, et al. *Nat Genet* 33(4):461-463, 2003.
3. Taranova OV, et al. *Genes Dev* 20(9):1187-1202, 2006.
4. Chao AT, et al. *Development* 134(5):989-997, 2007.

RELATED PRODUCTS

Product	***Conjugate***	***Cat. No.***
Protein A	Sepharose 4B	10-1041
rec-Protein G	Sepharose 4B	10-1241
ZyMAX™ Goat anti-rabbit IgG	Unconjugated	81-6100
ZyMAX™ Goat anti-mouse IgG	Unconjugated	81-6500

Secondary antibody conjugates.

Conjugate	***Goat anti-rabbit IgG (H+L)***	***Goat anti-mouse IgG (H+L)***	***Ex/Em****	***Fluorescence similar to--***
Alexa Fluor® 488	A11008	A11001	495/519	FITC
Alexa Fluor® 555	A21428	A21422	555/565	Cy3
Alexa Fluor® 594	A11012	A11005	590/617	Texas Red
Alexa Fluor® 647	A21244	A21235	650/668	Cy5
HRP	81-6120	81-6520	NA**	NA
AP	81-6122	81-6522	NA	NA
Biotin	B2770	B2763	NA	NA

*Excitation/emission (nm); **Not applicable

For additional secondary antibody conjugates, visit www.invitrogen.com/antibodies

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