

SOX2

Concentrated and Prediluted Monoclonal Antibody
902-3109-120519

BIOCARE
M E D I C A L

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|------------------------|----------------------|--------------------|
| Catalog Number: | ACR 3109 A, C | APR 3109 AA |
| Description: | 0.1, 1.0 mL, conc. | 6.0 mL, RTU |
| Dilution: | 1:100 | Ready-to-use |
| Diluent: | Van Gogh Yellow | N/A |

Intended Use:

For Research Use Only. Not for use in diagnostic procedures.

Summary and Explanation:

The SOX2 gene encodes a member of the SRY-related HMG-box (SOX) family of transcription factors. SOX2 is expressed in multipotent neuronal stem cells and may aid to identify cells that are capable of self-renewal and multipotent differentiation (1-3). SOX2 has been shown to be a negative prognostic factor and associated with aggressive phenotypes in breast, head and neck, gastric, colorectal and bladder cancers (4-10). In small cell lung cancers, SOX2 was also correlated with a poor prognosis. Conversely, SOX2 is expressed in a high percentage of lung squamous cell carcinomas and was shown to be an independent positive prognostic marker (11-14).

Principle of Procedure:

Antigen detection in tissues and cells is a multi-step immunohistochemical process. The initial step binds the primary antibody to its specific epitope. After labeling the antigen with a primary antibody, a one-, two- or three-step detection procedure can be employed. The one-step procedure will feature an enzyme-labeled polymer that binds to the primary antibody. A two-step procedure will feature a secondary antibody added to bind to the primary antibody. An enzyme-labeled polymer is then added to bind to the secondary antibody. The three-step detection procedure will feature a secondary antibody added to bind to the primary antibody followed by a linker antibody step for maximum binding. An enzyme-labeled polymer is then added to bind to the linker antibody. These detections of the bound antibodies are evidenced by a colorimetric reaction.

Source: Mouse monoclonal

Species Reactivity: Human; others not tested

Clone: BC36

Isotype: IgG1/kappa

Protein Concentration: Call for lot specific Ig concentration.

Epitope/Antigen: SOX2

Cellular Localization: Nuclear

Positive Tissue Control: Lung squamous cell carcinoma

Known Applications:

Immunohistochemistry (formalin-fixed paraffin-embedded tissues)

Supplied As: Buffer with protein carrier and preservative

Storage and Stability:

Store at 2°C to 8°C. The product is stable to the expiration date printed on the label, when stored under these conditions. Do not use after expiration date. Diluted reagents should be used promptly; any remaining reagent should be stored at 2°C to 8°C.

Staining Protocol Recommendations (intelliPATH FLX® and manual use):

Peroxide Block: Block for 5 minutes with Peroxidized 1.

Pretreatment: Perform heat retrieval using Reveal Decloaker. Refer to the Reveal Decloaker product data sheet for specific instructions.

Protein Block (Optional): Incubate for 5-10 minutes at RT with Background Punisher.

Primary Antibody: Incubate for 30 minutes at RT.

Probe: Incubate for 10 minutes at RT with a secondary probe.

Polymer: Incubate for 10-20 minutes at RT with a tertiary polymer.

Chromogen: Incubate for 5 minutes at RT with Biocare's DAB – OR – Incubate for 5-7 minutes at RT with Warp Red.

Staining Protocol Recommendations (intelliPATH FLX® and manual use) Cont'd:

Counterstain:

Counterstain with hematoxylin. Rinse with deionized water. Apply Tacha's Bluing Solution for 1 minute. Rinse with deionized water.

Technical Note:

This antibody, for intelliPATH FLX and manual use, has been standardized with MACH 4 detection system. Use TBS for washing steps.

Limitations:

This product is provided for Research Use Only (RUO) and is not for use in diagnostic procedures. Suitability for specific applications may vary and it is the responsibility of the end user to determine the appropriate application for its use.

Precautions:

1. This antibody contains less than 0.1% sodium azide. Concentrations less than 0.1% are not reportable hazardous materials according to U.S. 29 CFR 1910.1200, OSHA Hazard communication and EC Directive 91/155/EC. Sodium azide (NaN₃) used as a preservative is toxic if ingested. Sodium azide may react with lead and copper plumbing to form highly explosive metal azides. Upon disposal, flush with large volumes of water to prevent azide build-up in plumbing. (Center for Disease Control, 1976, National Institute of Occupational Safety and Health, 1976) (15)
2. Specimens, before and after fixation, and all materials exposed to them should be handled as if capable of transmitting infection and disposed of with proper precautions. Never pipette reagents by mouth and avoid contacting the skin and mucous membranes with reagents and specimens. If reagents or specimens come into contact with sensitive areas, wash with copious amounts of water. (16)
3. Microbial contamination of reagents may result in an increase in nonspecific staining.
4. Incubation times or temperatures other than those specified may give erroneous results. The user must validate any such change.
5. Do not use reagent after the expiration date printed on the vial.
6. The SDS is available upon request and is located at <http://biocare.net>.

Technical Support:

Contact Biocare's Technical Support at 1-800-542-2002 for questions regarding this product.

References:

1. Gene: <http://www.ncbi.nlm.nih.gov/gene/6657>
2. Graham V, *et al.* SOX2 functions to maintain neural progenitor identity. *Neuron*. 2003 Aug 28; 39(5):749-65.
3. Ellis P, *et al.* SOX2, a persistent marker for multipotential neural stem cells derived from embryonic stem cells, the embryo or the adult. *Dev Neurosci*. 2004 Mar-Aug; 26(2-4):148-65.
4. Rodriguez-Pinilla SM, *et al.* Sox2: a possible driver of the basal-like phenotype in sporadic breast cancer. *Mod Pathol*. 2007 Apr; 20(4):474-81.
5. Huang YH, *et al.* Increased SOX2 expression in less differentiated breast carcinomas and their lymph node metastases. *Histopathology*. 2014 Mar; 64(4):494-503.
6. Li W, *et al.* SOX2 as prognostic factor in head and neck cancer: a systematic review and meta-analysis. *Acta Otolaryngol*. 2014 Nov; 134(11):1101-8.



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7. Camilo V, *et al.* Immunohistochemical molecular phenotypes of gastric cancer based on SOX2 and CDX2 predict patient outcome. *BMC Cancer*. 2014 Oct 9; 14:753.
8. Lundberg IV, *et al.* SOX2 expression is regulated by BRAF and contributes to poor patient prognosis in colorectal cancer. *PLoS One*. 2014 Jul 10; 9(7):e101957.
9. Saigusa S, *et al.* Correlation of CD133, OCT4, and SOX2 in rectal cancer and their association with distant recurrence after chemoradiotherapy. *Ann Surg Oncol*. 2009 Dec; 16(12):3488-98.
10. Ruan J, *et al.* Predictive value of Sox2 expression in transurethral resection specimens in patients with T1 bladder cancer. *Med Oncol*. 2013 Mar; 30(1):445.
11. Velcheti V, *et al.* High SOX2 levels predict better outcome in non-small cell lung carcinomas. *PLoS One*. 2013 Apr 19; 8(4):e61427.
12. Wilbertz T, *et al.* SOX2 gene amplification and protein overexpression are associated with better outcome in squamous cell lung cancer. *Mod Pathol*. 2011 Jul; 24(7):944-53.
13. Li X, *et al.* Expression of sox2 and oct4 and their clinical significance in human non-small-cell lung cancer. *Int J Mol Sci*. 2012; 13(6):7663-75.
14. Yang F, *et al.* Elevated expression of SOX2 and FGFR1 in correlation with poor prognosis in patients with small cell lung cancer. *Int J Clin Exp Pathol*. 2013 Nov 15; 6(12):2846-54.
15. Center for Disease Control Manual. Guide: Safety Management, NO. CDC-22, Atlanta, GA. April 30, 1976 "Decontamination of Laboratory Sink Drains to Remove Azide Salts."
16. Clinical and Laboratory Standards Institute (CLSI). Protection of Laboratory Workers from Occupationally Acquired Infections; Approved Guideline-Fourth Edition CLSI document M29-A4 Wayne, PA 2014.



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