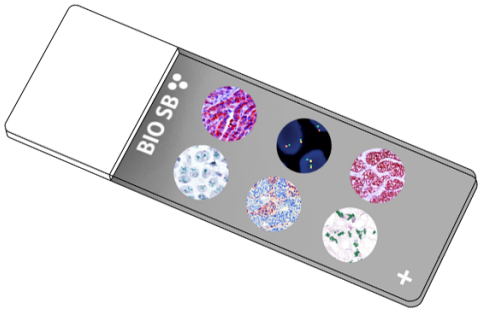
# SOX-9 Control Slides

CE IVD




**Intended Use**
For In Vitro Diagnostic Use.

**Summary and Explanation**
Transcription factor SOX-9 is a protein that in humans is encoded by the SOX9 gene. SOX9 acts during chondrocyte differentiation and regulates transcription of the anti-Müllerian hormone gene. It is expressed during embryogenesis, in the cartilage, neural crest, kidney, and pancreas. SOX-9 plays a pivotal role in male sexual development, interacts with a few other genes to promote the development of male sexual organs and its activity is also required for development, differentiation, and lineage commitment in various tissues including the intestinal epithelium.

SOX9 exhibits several pro-oncogenic properties, including the ability to promote proliferation, inhibit senescence, and collaborate with other oncogenes in neoplastic transformation. Human colorectal cancers show a positive correlation between expression levels of SOX9 and BMI1 and a negative correlation between SOX9 and ARF in clinical samples. In normal colorectal mucosa, SOX9 expression is found predominantly to the lower part of crypts, the proliferative compartment and putative site of stem cells, suggesting SOX9 as a putative stem or progenitor cell biomarker. Recent studies have shown the overexpression of SOX9 in solid tumors. Compared to normal tissues, immunohistochemical analysis revealed staining that is more intense and widespread staining in many cancer types, including but not limited to, Gastric carcinoma, Non-Small Cell Lung Cancer, Lung Adenocarcinoma, Prostate Cancer, Breast Carcinoma, Pancreatic Ductal Adenocarcinoma, Glioma, Colorectal Cancer, Hepatocellular Carcinoma and Ovarian Cancer. Amplification of 17q24.3, the chromosomal region of SOX9 has been found in Prostate, Neuroblastoma, Medulloblastoma, Breast and Ovarian Cancer, which all exhibit high SOX9 expression. Although staining is predominantly nuclear, cytoplasmic SOX9 may serve as a valuable prognostic marker for Invasive Ductal Carcinomas and Metastatic Breast Cancer. Additionally, SOX9 upregulation has been associated with higher tumor stage and grade, and overexpression has been recognized as an independent prognostic marker for decreased survival in Colorectal Cancer, NSCLC and HCC patients.

**Presentation**
Five slides of SOX-9 positive tissues, each mounted on Hydrophilic Plus Slides, provided in a plastic mailer.

| *Catalog No.* | *Quantity* |
|---|---|
| BSB-9385-CS | 5 slides |
| BSB 3217 | 5 slides |

**Storage** Store at 20-25°C

**Precautions**
1. For professional users only. Results should be interpreted by a qualified medical professional.
2. Ensure proper handling procedures are used with this reagent.
3. Always wear personal protective equipment such as a laboratory coat, goggles, and gloves when handling reagents.
4. Dispose of unused solution with copious amounts of water.
5. Follow safety precautions of the heating device used for epitope retrieval (TintoRetriever Pressure Cooker or similar).
8. For additional safety information, refer to Safety Data Sheet for this product.
9. For complete recommendations for handling biological specimens, please refer to the CDC document, "Guidelines for Safe Work Practices in Human and Animal Medical Diagnostic Laboratories" (see References in this document).

**Stability**
**This product is stable up to the expiration date on the product label.**
Do not use after expiration date listed on package label.

**IHC Protocol**
1. Subject tissues to heat induced epitope retrieval (HIER) using a suitable retrieval solution such as ImmunoDNA Retriever with Citrate (BSB 0020-BSB 0023) or EDTA (BSB 0030-BSB 0033).
2. Any of three heating methods may be used:
**a. TintoRetriever Pressure Cooker or Equivalent**
Place tissues/slides in a staining dish or coplin jar containing the ImmunoDNA Retriever with Citrate or EDTA and place on trivet in the pressure cooker. Add 1-2 inches of distilled water to the pressure cooker and turn heat to high. Incubate for 15 minutes. Open and immediately transfer slides to room temperature.
**b. TintoRetriever PT Module or Water Bath Method**
Place tissues/slides in a pre-warmed staining dish or coplin jar containing the ImmunoDNA Retriever with Citrate or EDTA at 95°-99° C. Incubate for 30-60 minutes.
**c. Conventional Steamer Method**
Place tissues/slides in a pre-warmed staining dish or coplin jar containing the ImmunoDNA Retriever with Citrate or EDTA in a steamer, cover and steam for 30-60 minutes.
3. After heat treatment, transfer slides in ImmunoDNA Retriever with Citrate or EDTA to room temperature and let stand for 15-20 minutes.
4. For manual staining, perform antibody incubation at ambient temperature. For automated staining methods, perform antibody incubation according to instrument manufacturer's instructions.
5. Wash slides with ImmunoDNA washer or DI water.
6. Continue IHC staining protocol. Wash slides between each step with ImmunoDNA washer solution.

**Abbreviated Immunohistochemical Protocol**

| Step | ImmunoDetector AP/HRP | PolyDetector AP/HRP | PolyDetector Plus HRP |
|---|---|---|---|
| Peroxidase/AP Blocker | 5 min. | 5 min. | 5 min |
| Primary Antibody | 30-60 min. | 30-60 min. | 30-60 min. |
| 1st Step Detection | 10 min. | 30-45 min. | 15 min. |
| 2nd Step Detection | 10 min. | Not Applicable | 15 min. |
| Substrate- Chromogen | 5-10 min. | 5-10 min. | 5-10 min. |
| Counterstain / Coverslip | Varies | Varies | Varies |

**Abbreviated IF Protocol**

| Step | Incubation Time |
|---|---|
| Rinse slides in IF wash buffer | 5 minutes |
| Drain and wipe excess IF wash buffer off slide | |
| Conduct remaining steps in the dark | |
| Apply Antibody | 30-60 minutes |
| Rinse with 3 changes of IF wash buffer | 3x15 minutes each |
| Coverslip with IF mounting medium | |

**Mounting Protocols**

For detailed instructions using biodegradable permanent mounting media such as XyGreen PermaMounter (BSB 0169-0174) or organic solvent based resin such as PermaMounter (BSB 0094-0097), refer to PI0174 or PI0097.

**Product Limitations**

Due to inherent variability present in immunohistochemical procedures (including fixation time of tissues, dilution factor of antibody, retrieval method utilized, and incubation time), optimal performance should be established through the use of positive and negative controls. Results should be interpreted by a qualified medical professional.

**References**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4. Lü B, et al. Analysis of SOX9 expression in colorectal cancer. Am J Clin Pathol. 2008 Dec; 130 (6):897-904
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7. U.S. Department of Health and Human Services: Centers for Disease Control and Prevention. Guidelines for Safe Work Practices in Human and Animal Medical Diagnostic Laboratories. Supplement / Vol. 61, January 6, 2012. https://www.cdc.gov/mmwr/pdf/other/su6101.pdf


**Symbol Key / Légende des symboles/Erläuterung der Symbole**

| | | | |
|---|---|---|---|
| EC REP QAdvis EAR AB<br>Ideon Science Park<br>Scheelevägen 17<br>SE-223 70 Lund, Sweden | Storage Temperature<br>Limites de température<br>Zulässiger Temperaturbereich | Manufacturer<br>Fabricant<br>Hersteller | REF Catalog Number<br>Référence du catalogue<br>Bestellnummer |
| IVD In Vitro Diagnostic Medical Device<br>Dispositif médical de diagnostic in vitro<br>In-Vitro-Diagnostikum | Read Instructions for Use<br>Consulter les instructions d'utilisation<br>Gebrauchsanweisung beachten | Expiration Date<br>Utiliser jusque<br>Verwendbar bis | LOT Lot Number<br>Code du lot<br>Chargenbezeichnung |


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