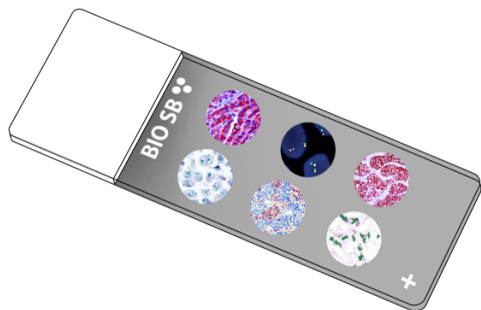


## MAGEC2 Control Slides



### Intended Use

For In Vitro Diagnostic Use.

### Summary and Explanation

Melanoma-associated gene C2 (MAGEC2) belongs to the melanoma antigen (MAGE) family of cancer-testis antigens which is expressed in normal testis and placental tissue. MAGEC2 is associated with tumor relapse and metastasis, with tumors of various histological types, including Hepatocellular Carcinoma, Melanoma, Lung Cancer, Bladder Cancer and Breast Cancer. It has been indicated that MAGEC2 expression is associated with hallmarks of aggressive cancers.

MAGEC2 is used to distinguish Seminoma from Embryonal carcinomas. MAGEC2 marker is a diagnostic tool for the differential diagnosis of testicular germ cell tumors. Immunohistochemical expression of MAGEC2 has a distinct nuclear staining. In non-neoplastic germ cells, MAGEC2 had a consistent and strong nuclear expression in 100% of cases. The staining is very strong in immature forms of spermatogonia and spermatocytes but weakens gradually with more mature forms like spermatids. No MAGEC2 expression was found in sperms. On the other hand, MAGEC2 is expressed in all cases (100%) of Intratubular Germ Cell Neoplasia of Unclassified type (IGCNU) with a similar pattern as in non-neoplastic intratubular germ cells. In Seminomas, MAGEC2 is expressed in 238 of 254 cases. From the other germ cell tumor components: 5 of 51 Yolk Sac Tumors (10%) and 1 of 10 Choriocarcinomas (10%) were positive for the MAGEC2 marker. None of the Embryonal Carcinomas or Teratomas had any nuclear expression of MAGEC2. MAGEC2 can be identified as a sensitive marker to differentiate Seminomas from other types of Germ Cell tumors. MAGEC2 plays a critical role in promoting Breast Cancer progression via the induction of EMT, which escalates the motility and invasiveness of tumor cells.

### Presentation

Five slides of MAGEC2 positive tissues, each mounted on Hydrophilic Plus Slides, provided in a plastic mailer.

Catalog No.	Quantity
BSB-9433-CS	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 the 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 the after expiration date listed on the 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

1. Bode P, et al. MAGEC2 is a sensitive and novel marker for seminoma: a tissue microarray analysis of 325 testicular germ cell tumors. Mod Pathol. 2011;24:829-835.
2. Yang F, et al. MAGEC2, an epithelial-mesenchymal transition inducer, is associated with breast cancer metastasis. Breast Cancer Res Treat. 2014;145(1):23-32.
3. Song X, et al. Post-transcriptional regulation of cancer/testis antigen MAGEC2 expression by TRIM28 in tumor cells. BMC Cancer. 2018;18:971.
4. 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

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