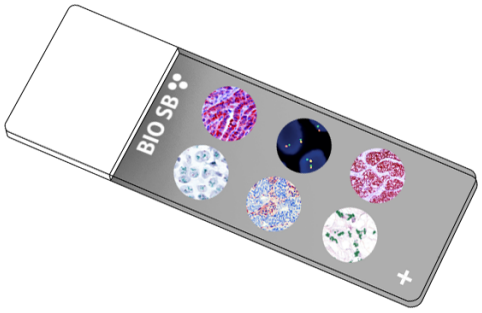
ICOS/CD278 Control Slides

CE IVD



Intended Use
For In Vitro Diagnostic Use.

Summary and Explanation
CD278 is also known as inducible T-cell costimulatory molecule. CD278 is homologous to the CD28/CTLA-4 proteins and is expressed on activated T cells and unstimulated thymocytes. CD278 plays a major role in regulation of cell-cell signaling, adaptive immune response, and cell proliferation. Interaction of CD278 and its ligand inducible T-cell costimulatory molecule-L results in increased production of interleukins, which promote differentiation of Tfh and Tregs and development of Th1, Th2, and Th17 cells.CD278/inducible T-cell costimulatory molecule-L interaction has been shown to promote either antitumor T cell response or pro-tumor responses when triggered in Tregs (such as in Multiple Myeloma, Acute Myeloid Leukemia, and some invasive Breast Carcinomas). Therefore, both agonistic and antagonistic monoclonal antibodies targeting this pathway can be potential cancer immunotherapy.inducible T-cell costimulatory molecule is primarily expressed on activated CD4+ and CD8+ T cells where it regulates immune responses and plays a role in the regulation of T Follicular helper cells. inducible T-cell costimulatory molecule is a sensitive marker for identifying T cell Lymphomas of Follicular Helper T cell origin, especially certain patterns of Angioimmunoblastic T-cell lymphoma and Peripheral T-cell lymphomas with T-follicular Helper Phenotype (PTCL-TFH). This is becoming increasingly important given WHO 2016 diagnostic guidelines. Immunohistochemical analysis revealed that inducible T-cell costimulatory molecule is widely expressed by malignant cells in skin biopsy specimens from patients with Mycosis Fungoides and Sézary syndrome, as well as involved in node biopsy specimens from patients with Sézary syndrome .

Presentation
Five slides of inducible T-cell costimulatory molecule/CD278 positive tissues, each mounted on Hydrophilic Plus Slides, provided in a plastic mailer.

Catalog No.	*Quantity*
BSB-9229-CS	5 slides
BSB-3731-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 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

1. Solinas C, Gu-Trantien C, Willard-Gallo K. The rationale behind targeting the inducible T-cell costimulatory molecule-inducible T-cell costimulatory molecule ligand costimulatory pathway in cancer immunotherapy. ESMO Open. 2020;5(1):e000544. doi:10.1136/esmoopen-2019-0005442. Marinelli O, Nabissi M, Morelli MB, Torquati L, Amantini C, Santoni G. inducible T-cell costimulatory molecule-L as a Potential Therapeutic Target for Cancer Immunotherapy. Curr Protein Pept Sci. 2018;19(11):1107-1113. doi:10.2174/1389203719666180608093913 3. Wang B, Jiang H, Zhou T, et al. Expression of inducible T-cell costimulatory moleculeL is associated with decreased survival in invasive breast cancer. PeerJ. 2019;7:e6903. Published 2019 May 16. doi:10.7717/peerj.69034. Rodriguez-Justo M, Attygalle AD, Munson P, Roncador G, Marafioti T, Piris MA. Angioimmunoblastic T-cell lymphoma with hyperplastic germinal centres: a neoplasia with origin in the outer zone of the germinal centre? Clinicopathological and immunohistochemical study of 10 cases with follicular T-cell markers. Mod Pathol. 2009;22(6):753-761. doi:10.1038/modpathol.2009.125. Amatore F, Ortonne N, Lopez M, et al. inducible T-cell costimulatory molecule is widely expressed in cutaneous T-cell lymphoma, and its targeting promotes potent killing of malignant cells. Blood Adv. 2020;4(20):5203-5214. doi:10.1182/bloodadvances.20200023956. U.S. Department of Health and Human Services: Centers for Disease Control and Prevention. Guidelines for Safe WorkPractices 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 Ideon Science Park Scheelevägen 17 SE-223 70 Lund, Sweden	Storage Temperature Limites de température Zulässiger Temperaturbereich	Manufacturer Fabricant Hersteller	REF Catalog Number Référence du catalogue Bestellnummer
IVD 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 jusque Verwendbar bis	LOT Lot Number Code du lot Chargenbezeichnung

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