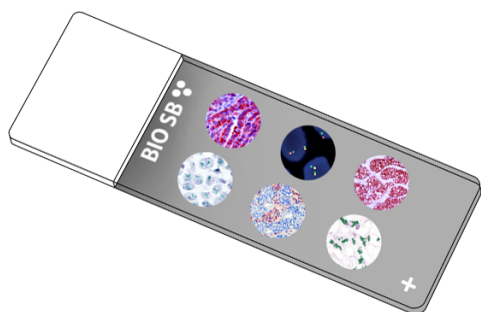


CXCL12/SDF-1

Control Slides



Intended Use

For In Vitro Diagnostic Use.

Summary and Explanation

The cytokine C-X-C motif chemokine 12 (CXCL12) is synthesized by metastasis target tissues and has been shown to attract tumor cells that express the receptor, C-X-C chemokine receptor type 4 (CXCR4). CXCL12 is an inflammatory chemokine involved in Phospholipase C, MAPK, and PI3K-Akt-mTOR, and JAK/STAT pathways. CXCL12 interacts with its receptor CXCR4 to promote immunosuppression, chemotaxis, adhesion and migration, cell proliferation and survival. CXCL12 is involved in tumor protection and metastasis, where it induces angiogenesis and epithelial-to-mesenchymal transition and inhibits apoptosis and host immune response. CXCL12 is highly expressed in cancer-associated fibroblasts and tumor stroma, where it sequesters T cells and prevents them from infiltrating and attacking the tumor. Expression of CXCL12 and CXCR4 in breast, pancreatic, esophageal, lung, prostate, and ovarian Cancers increases angiogenesis and is associated with poor prognosis, especially in the presence of HER2-neu which inhibits degradation of the CXCL12/CXCR4 signaling complex. Expression of CXCL12 in organs like lungs, lymph nodes, bone marrow, liver increases likelihood of metastasis to those sites. CXCL12 expression and activity is controlled by hypoxia, ACKR3 (CXCR7) receptor, and post-translational modifications; CXCL12 hypermethylation has been reported in gastric, breast, colon, lung, and prostate cancer. A large study found high CXCL12 expression associated with reduced overall survival in patients with oesophagogastric, pancreatic and lung cancer, whereas in breast cancer patients high CXCL12 expression conferred an overall survival advantage.

Presentation

Five slides of CXCL12/SDF-1 positive tissues, each mounted on Hydrophilic Plus Slides, provided in a plastic mailer.

<i>Catalog No.</i>	<i>Quantity</i>
BSB-9126-CS	5 slides
BSB-3713-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 PermaMunter (BSB 0169-0174) or organic solvent based resin such as PermaMunter (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. Zhou W, Guo S, Liu M, Burow ME, Wang G. Targeting CXCL12/CXCR4 Axis in Tumor Immunotherapy. *Curr Med Chem.* 2019;26(17):3026-3041. doi:10.2174/09298673246661708301115312. Righetti A, Giulietti M, Šabanović B, Occhipinti G, Principato G, Piva F. CXCL12 and Its Isoforms: Different Roles in Pancreatic Cancer?. *J Oncol.* 2019;2019:9681698. Published 2019 Jun 2. doi:10.1155/2019/9681698. Mirisola V, Zuccarino A, Bachmeier BE, et al. CXCL12/SDF1 expression by breast cancers is an independent prognostic marker of disease-free and overall survival. *Eur J Cancer.* 2009;45(14):2579-2587. doi:10.1016/j.ejca.2009.06.0264. Samarendra H, Jones K, Petrinic T, et al. A meta-analysis of CXCL12 expression for cancer prognosis. *Br J Cancer.* 2017;117(1):124-135. doi:10.1038/bjc.2017.1345. 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 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