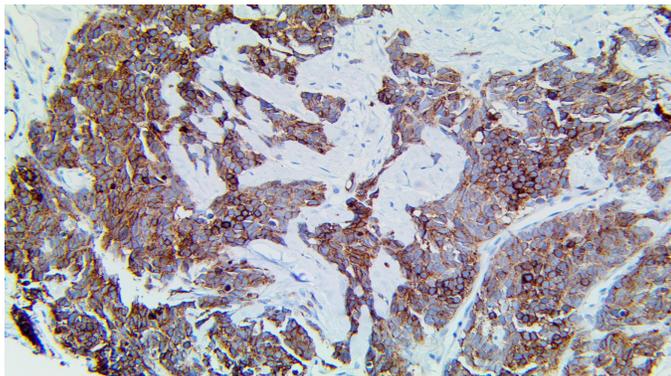


CXCR4/CD184

Clone: EP394
Rabbit Monoclonal



Inset: IHC of CXCR4/CD184 on a FFPE Lung Neuroendocrine Tissue

Intended Use

For In Vitro Diagnostic Use.

This antibody is intended for use in Immunohistochemical applications on formalin-fixed paraffin-embedded tissues (FFPE), frozen tissue sections, and cell preparations. Interpretation of results should be performed by a qualified medical professional.

* The CXCR4/CD184 antibody, clone EP394, has been manufactured using Epitomics RabMab® technology covered under Patent No.'s 5,675,063 and 7,402,409.

Immunogen

Synthetic peptide corresponding to residues of the human CXCR4 protein.

Summary and Explanation

Chemokine Receptor 4 (CXCR4, also CD184 or Fusin) is a homeostatic chemokine. Its major function is to regulate hematopoietic cell trafficking and secondary lymphoid tissue architecture. CXCR4 is widely expressed on Hematopoietic cells, including CD34+ HSC, T Lymphocytes, B Lymphocytes, Monocytes, Macrophages, Neutrophils, and Eosinophils, as well as organs including Brain, Heart, Colon, and Kidney, and Endothelial cells, Epithelial cells, and Smooth Muscle progenitors.

With roles in cell homing and tissue repair, CXCR4 is involved in cancer cell physiology, survival, and metastasis in >20 cancer types. CXCR4 induces and recruits stem cells and promotes angiogenesis in tumors, and responds to CXCL12 expression to promote metastasis in cancers of the Bone, Brain, Breast, Lung, Liver, Kidney, and other tissues. The SDF-1/CXCR4 axis plays a crucial role in engraftment, where CXCR4 expression is correlated with inflammation and graft rejection. The most studied role for CXCL12 chemokine and its receptor CXCR4 in Breast Cancer pathogenesis is the metastasis event, although several reports have demonstrated its involvement in other processes, such as angiogenesis and tumor growth. It has been found that CXCR4 is required for Breast Cancer cell migration to other sites such as Lung, Bone, and Lymph nodes, which express high levels of CXCL12 chemokine. Therefore, CXCR4 is being considered a prognostic marker in Breast Cancer.

Antibody Type	Rabbit Monoclonal	Clone	EP394
Isotype	IgG	Reactivity	Paraffin, Frozen
Localization	Membranous, Cytoplasmic	Species Reactivity	Human
Control	Fallopian Tube, Adrenal Gland, Stomach, Kidney, Transitional Cell Carcinoma, T Cell Lymphoblastic Lymphoma, Tonsil, Testis		
Application	Brain Cancer, Breast Cancer, Lung Cancer, Liver Cancer, Kidney & Urothelial Cancer		

Presentation

Anti-CXCR4/CD184 is a Rabbit Monoclonal antibody derived from cell culture supernatant that is concentrated, dialyzed, filter sterilized and diluted in buffer pH 7.5, containing BSA and sodium azide as a preservative.

Catalog No.	Presentation	Dilution	Volume
BSB-3720-3	Predilute	Ready-to-Use	3.0 mL
BSB-3720-7	Predilute	Ready-to-Use	7.0 mL
BSB-3720-15	Predilute	Ready-to-Use	15.0 mL
BSB-3720-01	Concentrate	1:25-1:100	0.1 mL
BSB-3720-05	Concentrate	1:25-1:100	0.5 mL
BSB-3720-1	Concentrate	1:25-1:100	1.0 mL

Control Slides Available

Catalog No.	Quantity
BSB-3720-CS	5 slides

Storage Store at 2-8°C (Control Slides: Store at 20-25°C)

Precautions

1. For professional users only. Results should be interpreted by a qualified medical professional.
2. This product contains <0.1% sodium azide (NaN₃) as a preservative. 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. Do not ingest reagent. If reagent is ingested, seek medical advice immediately.
6. Avoid contact with eyes. If contact occurs, flush with large quantities of water.
7. 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 the package label. Temperature fluctuations should be avoided. Store appropriately when not in use, and avoid prolonged exposure to room temperature conditions.

Specimen Preparation

Paraffin sections: The antibody can be used on formalin-fixed paraffin-embedded (FFPE) tissue sections. Ensure tissue undergoes appropriate fixation for best results. Pre-treatment of tissues with heat-induced epitope retrieval (HIER) is recommended using Bio SB ImmunoDNA Retriever with Citrate (BSB 0020-BSB 0023), ImmunoDNA Retriever with EDTA (BSB 0030-BSB 0033), or ImmunoDNA Digester (BSB 0108-0112). See reverse side for complete protocol. Tissue should remain hydrated via use of Bio SB Immuno/DNA Washer solutions (BSB 0029 & BSB 0042).

Frozen sections and cell preparations: The antibody can be used on acetone-fixed frozen sections and acetone-fixed cell preparations.

IHC Protocol

1. Cut and mount 3-5 micron formalin-fixed paraffin-embedded tissues on positively charged slides such as Bio SB Hydrophilic Plus Slides (BSB 7028).
2. Air dry for 2 hours at 58° C.
3. Deparaffinize, dehydrate and rehydrate tissues.
4. 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).
5. 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.

6. After heat treatment, transfer slides in ImmunoDNA Retriever with Citrate or EDTA to room temperature and let stand for 15-20 minutes.
7. For manual IHC, perform antibody incubation at ambient temperature. For automated IHC methods, perform antibody incubation according to instrument manufacturer's instructions.

8. Wash slides with ImmunoDNA washer or DI water.

9. Continue IHC 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

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. Asfour I, Afify H, Elkourashy S, et al. CXCR4 (CD184) expression on stem cell harvest and CD34+ cells post-transplant. Hematol Oncol Stem Cell Ther. 2017;10(2):63-69. doi:10.1016/j.hemonc.2017.01.002
2. Chatterjee S, Behnam Azad B, Nimmagadda S. The intricate role of CXCR4 in cancer. Adv Cancer Res. 2014;124:31-82. doi:10.1016/B978-0-12-411638-2.00002-1
3. Okuyama Kishima M, de Oliveira CE, Banin-Hirata BK, et al. Immunohistochemical expression of CXCR4 on breast cancer and its clinical significance. Anal Cell Pathol (Amst). 2015;2015:891020. doi:10.1155/2015/891020
4. 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

	EMERGO EUROPE Prinsessegracht 20 2514 AP The Hague The Netherlands	 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 jusque Verwendbar bis	 Lot Number Code du lot Chargenbezeichnung