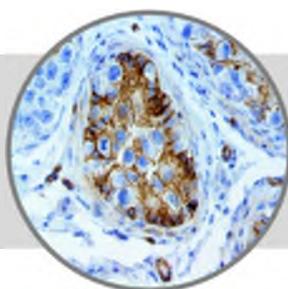


CD146/MUC18/Mel-CAM

Clone: BSB-122
Mouse Monoclonal

**RUO**

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Inset: IHC of CD146/MUC18/Mel-CAM on a FFPE Testicular Tissue

Intended Use

For Research Use Only.

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.

Immunogen

Synthetic peptide corresponding to residues from the C-terminal domain of the human Mel CAM protein.

Summary and Explanation

CD146 also known as the melanoma cell adhesion molecule (Mel CAM) or cell surface glycoprotein MUC18, is a 113kDa cell adhesion molecule currently used as a marker for endothelial cell lineage. In humans, the CD146 protein is encoded by the *MCAM* gene.

MCAM functions as a receptor for laminin alpha 4, a matrix molecule that is broadly expressed within the vascular wall. MCAM is highly expressed by cells that are components of the blood vessel wall, including vascular endothelial cells, smooth muscle cells and pericytes. It is expressed on chicken embryonic spleen and thymus, activated human T cells, endothelial progenitors such as angioblasts and mesenchymal stem cells, and strongly expressed on blood vessel endothelium and smooth muscle.

The lineage-specific expression pattern of CD146 can be useful in the differential diagnosis of certain conditions including melanomas and various types of gestational trophoblastic lesions. CD146 has been suggested to play an important role in tumor progression, implantation and placentation. CD146 expression can promote tumor progression in human melanoma, possibly through enhanced interaction between melanoma cells and endothelial cells. In contrast, CD146 may act as a tumor suppressor in breast carcinoma. CD146 expression is frequently lost in breast carcinomas and overexpression of CD146 in breast carcinoma cells results in a more cohesive cell growth and the formation of smaller tumors in nude mice. During implantation and placentation, CD146 expressed by the intermediate trophoblast in the placental site binds to its putative receptor in uterine smooth muscle cells and limits trophoblastic invasion in the myometrium.

Antibody Type	Mouse Monoclonal	Clone	BSB-122
Isotype	IgG1/K	Reactivity	Paraffin, Frozen
Localization	Cytoplasmic	Control	Testis, Tonsil, Colon, Breast, Placenta
Species Reactivity		Human, Mouse, Rat	

Presentation

CD146/MUC18/Mel-CAM is a mouse 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.

<i>Catalog No.</i>	<i>Antibody Type</i>	<i>Dilution</i>	<i>Volume/Qty</i>
BSB 3518	Tinto Prediluted	Ready-to-Use	3.0 mL
BSB 3519	Tinto Prediluted	Ready-to-Use	7.0 mL
BSB 3520	Tinto Prediluted	Ready-to-Use	15.0 mL
BSB 3521	Concentrated	1:50 - 1:200	0.1 mL
BSB 3522	Concentrated	1:50 - 1:200	0.5 mL
BSB 3523	Concentrated	1:50 - 1:200	1.0 mL

Control Slides Available

<i>Catalog No.</i>	<i>Quantity</i>
BSB 3524	5 slides

Precautions

- For professional users only. Results should be interpreted by a qualified medical professional.
- This product contains <0.1% sodium azide (NaN₃) as a preservative. Ensure proper handling procedures are used with this reagent.
- Always wear personal protective equipment such as laboratory coat, goggles and gloves when handling reagents.
- Dispose of unused solution with copious amount of water.
- Do not ingest reagent. If reagent is ingested, seek medical advice immediately.
- Avoid contact with eyes. If contact occurs, flush with large quantities of water.
- Follow safety precautions of the heating device used for epitope retrieval (TintoRetriever Pressure Cooker or similar).
- For additional safety information refer to Safety Data Sheet for this product.
- 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).

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

Stability

This product is stable up to the expiration date on the product label. Do not use after expiration date listed on 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 Digestor (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 for labeling acetone-fixed frozen sections and acetone-fixed cell preparations.

Staining Procedure

- Cut and mount 3-5 micron formalin-fixed paraffin-embedded tissues on positively charged slides such as Bio SB Hydrophilic Plus Slides (BSB 7028).
- Air dry for 2 hours at 58° C.
- Deparaffinize and rehydrate tissues.
- 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).
- Any of three heating methods may be used:
 - 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.
 - 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.
 - 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.
- After heat treatment, transfer slides in ImmunoDNA Retriever with Citrate or EDTA to room temperature and let stand for 15-20 minutes.
- For manual staining, perform antibody incubation at ambient temperature. For automated staining methods, perform antibody incubation according to instrument manufacturer's instructions.
- Wash slides with ImmunoDNA washer or DI water.
- 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 AP/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

- Kuske MD, Johnson JP. "Assignment of the human melanoma cell adhesion molecule gene (MCAM) to chromosome 11 band q23.3 by radiation hybrid mapping". *Cytogenet. Cell Genet.* 1999. 87 (3-4): 258.
- Flanagan K, et al. "Laminin-411 Is a Vascular Ligand for MCAM and Facilitates TH17 Cell Entry into the CNS". *PLOS ONE.* 2012. 7 (7): e40443.
- Shih IM. The role of CD146 (Mel-CAM) in biology and pathology. *J Pathol.* 1999 Sep;189(1):4-11.
- 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.

Symbol Key / Légende des symboles/Erläuterung der Symbole

	Storage Temperature Limites de température Zulässiger Temperaturbereich		Manufacturer Fabricant Hersteller		Catalog Number Référence du catalogue Bestellnummer
	Read Instructions for Use Consulter les instructions d'utilisation Gebrauchsanweisung beachten		Expiration Date Utiliser jusque Verwendbar bis		Lot Number Code du lot Chargenbezeichnung

Bio SB
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69 Santa Felicia Dr., Santa Barbara, CA 93117, USA
Tel. (805) 692-2768 | Tel. (800) 561-1145 | Fax. (805) 692-2769
E-mail: sales@biosb.com | Website: www.biosb.com