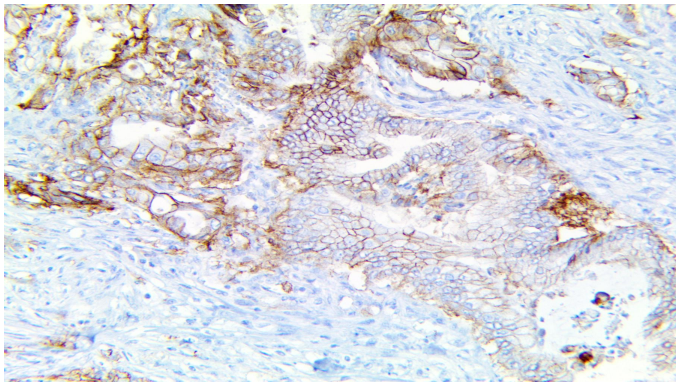
Bio SB
BIOSCIENCE FOR THE WORLD

Trop-2/EGP-1

Clone: BSB-148
Mouse Monoclonal

CE IVD



Inset: IHC of Trop-2/EGP-1 on a FFPE Pancreatic Adenocarcinoma Tissue

Antibody Type	Mouse Monoclonal	**Clone**	BSB-148
Isotype	IgG1	**Reactivity**	Paraffin, Frozen
Localization	Membranous	**Species Reactivity**	Human, Mouse, Rat
Control	Breast, Prostate, Skin, Transitional Cell Carcinoma, Papillary Thyroid Carcinoma, Pancreatic Carcinoma		
Application	Thyroid and Parathyroid Cancer, Gallbladder and Pancreatic Cancer, Cervical Cancer, Gastric Cancer		

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 the extracellular domain of the human TROP-2 protein.

Summary and Explanation
Trop-2 or Tumor-associated calcium signal transducer 2, also known as epithelial glycoprotein-1 antigen (EGP-1), is a protein that in humans is encoded by the *TACSTD2* gene. This transmembrane glycoprotein functions in a variety of cell signaling pathways and was first elucidated as a transducer of an intracellular calcium signal. Trop-2 expression has been demonstrated to depend on a large variety of transcription factors. Trop-2 is involved in several cell signaling pathways, of which many are associated with tumorigenesis.

In Thyroid Cancer cell invasion, Trop-2 signal transduction has been seen as a downstream effect of the ERK and JNK pathways, where its signaling enhances stem cell-like properties of cancer cells, as Trop-2 regulates proliferation and self-renewal through ☒-catenin signaling. In a study, the majority of Papillary Thyroid Carcinoma (PTC) specimens were positive for Trop-2; however, the pattern of staining differed significantly between the histopathological variants. All Papillary microcarcinomas (mPTC), PTC classic variant (PTC cv), and tall cell variants (PTC tcv) were Trop-2 positive, with mainly diffuse staining. In contrast, less than half of the PTC follicular variant specimens were positive for Trop-2, with only focal immunoreactivity. Trop-2 may play a role in tumor progression given the involvement in several molecular pathways traditionally associated with cancer development. High Trop-2 expression correlates with poor prognosis in Pancreatic Carcinoma, Hilar Cholangiocarcinoma, Cervical Cancer, Gastric Cancer, and others. Increased Trop-2 expression has been associated with poor overall and disease-free survival outcomes across several solid tumors. Given Trop-2's expression pattern and associated poor prognostic outcomes, Trop-2 is a rational prognostic marker and a possible therapeutic target.

Presentation
Anti-Trop-2/EGP-1 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.

Catalog No.	*Presentation*	*Dilution*	*Volume*
BSB-3754-3	Predilute	Ready-to-Use	3.0 mL
BSB-3754-7	Predilute	Ready-to-Use	7.0 mL
BSB-3754-15	Predilute	Ready-to-Use	15.0 mL
BSB-3754-01	Concentrate	1:25-1:100	0.1 mL
BSB-3754-05	Concentrate	1:25-1:100	0.5 mL
BSB-3754-1	Concentrate	1:25-1:100	1.0 mL

Control Slides Available

Catalog No.	*Quantity*
BSB-3754-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 (NaN_3) 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 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 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 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

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2. Guan H, Guo Z, Liang W, et al. Trop2 enhances invasion of thyroid cancer by inducing MMP2 through ERK and JNK pathways. BMC Cancer. 2017;17(1):486. Published 2017 Jul 14. doi:10.1186/s12885-017-3475-2
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Symbol Key / Légende des symboles/Erläuterung der Symbole

EC REP EMERGO EUROPE Prinsessegracht 20 2514 AP The Hague The Netherlands	Storage Temperature Limites de température ulässiger 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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