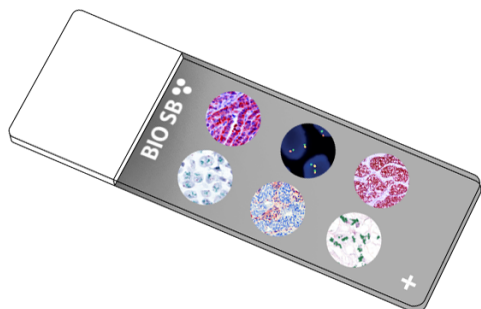


TFF3 Control Slides

RUO



Intended Use

For Research Use Only.

Summary and Explanation

Trefoil factor 3 (TFF3) is a mucin-related secretory molecule produced by goblet cells (mucus-producing cells) in the colon and small intestine to seal areas of tissue damage along the GI tract. TFF3 can increase the rheological properties of mucus and affect inflammation through EGFR regulation to protect against colitis and gastrointestinal parasites. Data suggests that TFFs can induce IL-10, MAPK, and beta catenin activation, and has also been shown to suppress TNF-alpha expression and regulate STAT3, which are major components of cytokine and growth factor signaling pathways.

TFF3 has been identified as an indicator of Barrett's Esophagus, a premalignant condition indicating predisposition to esophageal adenocarcinoma. In cases of acid reflux, TFF3 and p53 can be used to help identify likely cases of dysplasia and chronic inflammation. Overexpression of TFF3 has been found to promote proliferation and invasion in Cervical Cancer cells, through the regulation of E-Cadherin. Expression of TFF3 has also been found to be decreased in Colorectal Cancer, and may be a prognostic indicator, with less TFF3 expression indicating higher pathologic stages of the tumor.

Presentation

Five slides of TFF3 positive tissues, each mounted on Hydrophilic Plus Slides, provided in a plastic mailer.

<i>Catalog No.</i>	<i>Quantity</i>
BSB-9448-CS-RUO	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

- Aihara E, et al. Trefoil Factor Peptides and Gastrointestinal Function. *Annu Rev Physiol.* 2017;79:357-380.
- Belle NM, et al. TFF3 interacts with LINGO2 to regulate EGFR activation for protection against colitis and gastrointestinal helminths. *Nat Commun.* 2019;10:4408.
- Hoellen F. Trefoil factor 3 expression in epithelial ovarian cancer exerts a minor effect on clinicopathological parameters. *Mol Clin Oncol.* 2016 Oct; 5(4): 422-428.
- Lau WH, et al. Trefoil Factor-3 (TFF3) Stimulates De Novo Angiogenesis in Mammary Carcinoma both Directly and Indirectly via IL-8/CXCR2. *PLoS One.* 2015;10(11):e0141947.
- Patel MR, et al. Trefoil factor 3 immunohistochemical characterization of follicular thyroid lesions from tissue microarray. *Arch Otolaryngol Head Neck Surg.* 2009;135(6):590-6.
- Paterson AL, et al. Role of TFF3 as an adjunct in the diagnosis of Barrett's esophagus using a minimally invasive esophageal sampling device-The Cytosponge™. *Diagn Cytopathol.* 2020;48(3):253-264.
- Espinoza I, et al. Expression of trefoil factor 3 is decreased in colorectal cancer. *Oncol Rep.* 2021;45: 254-264.
- 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

 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
A CANCER DIAGNOSTICS COMPANY



5385 Hollister Avenue, Bldg. 8, Ste. 108, Santa Barbara, CA 93111, USA
Tel. (805) 692-2768 | Tel. (800) 561-1145 | Fax. (805) 692-2769
E-mail: sales@biosb.com | Website: www.biosb.com