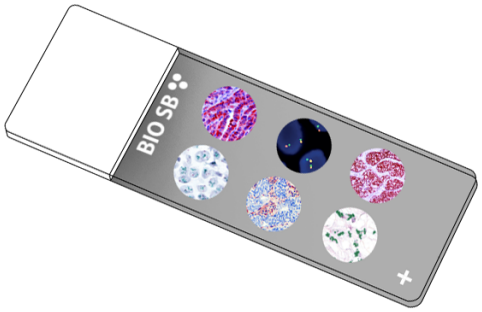
PDX1 Control Slides

CE IVD



Intended Use
For In Vitro Diagnostic Use.

Summary and Explanation
PDX1 (Pancreatic and duodenal homeobox 1), also known as insulin promoter factor 1, is a transcription factor necessary for pancreatic development, including β-cell maturation, and duodenal differentiation. PDX1 appears to also play a role in the fating of endocrine cells, encoding for insulin and somatostatin, two pancreatic endocrine products, while suppressing glucagon. Thus, PDX1 expression apparently favors the production of insulin+ β-cells and somatostatin+ Δ-cells rather than glucagon+ α-cells. In addition to roles in beta-cell differentiation, PDX1 is required for β-cell survival. Cells with reduced PDX1 expression have an increased rate of apoptotic programmed cell death. Mutations in the PDX1 gene may be involved in several pancreatic pathologies, including diabetes mellitus and pancreatic cancer.

Among normal pancreatic tissues, PDX1 nuclear protein is expressed in islet cells, cells of the centroacinar cell compartment, ductal epithelium and is selectively expressed in adult Brunner's glands of the duodenum and pyloric endocrine cells of the stomach. PDX1 expression has been identified in Pancreatic Ductal Adenocarcinomas and endocrine neoplasms. No expression of PDX1 is seen in non-neoplastic acinar cells. Among pancreatic neoplasms, PDX1 consistently labeled >50% of the tumor cells. PDX1 expression is variable in invasive ductal adenocarcinoma and precursor lesions of ductal adenocarcinomas. Solid pseudopapillary neoplasms do not express PDX1. Besides increased expression of PDX1 in Pancreatic cancer, it also has also been reported in tumors of the colon and prostate, indicating that PDX1 may serve as a biomarker in patients with these malignancies.

Presentation
Five slides of PDX1 positive tissues, each mounted on Hydrophilic Plus Slides, provided in a plastic mailer.

Catalog No.	*Quantity*
BSB-9341-CS	5 slides
BSB 3161	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 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

1. Stoffel M, et al. Localization of human homeodomain transcription factor insulin promoter factor 1 (IPF1) to chromosome band 13q12.1". Genomics 1995; 28 (1): 125–6.
2. D'Amour KA, et al. Production of pancreatic hormone-expressing endocrine cells from human embryonic stem cells". Nat. Biotechnol. 2006; 24 (11): 1392–401.
3. Johnson JD, et al. Insulin protects islets from apoptosis via Pdx1 and specific changes in the human islet proteome. Proc. Natl. Acad. Sci. U.S.A. 2006; 103 (51): 19575–80.
4. Fajans SS, et al. Molecular mechanisms and clinical pathophysiology of maturity-onset diabetes of the young. N. Engl. J. Med. 2001; 345 (13): 971–80.
5. Ma J, et al. Pancreatic duodenal homeobox-1 (PDX1) functions as a tumor suppressor in gastric cancer. Carcinogenesis 2098; 29 (7): 1327–33.
6. Park JY, et al. Pdx1 expression in pancreatic precursor lesions and neoplasms. Appl Immunohistochem Mol Morphol. 2011 Oct; 19(5):444-9.
7. 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

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