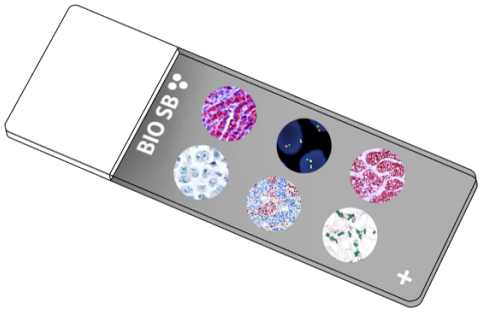
PELP1
Control Slides

CE IVD



Intended Use
For In Vitro Diagnostic Use.

Summary and Explanation
Proline-, glutamic acid- and leucine-rich protein 1 (Proline-, glutamic acid- and leucine-rich protein 1) gene expresses Proline-, glutamic acid- and leucine-rich protein 1, also known as HMX3 protein, a transcription factor that regulates the expression of many signaling proteins. Proline-, glutamic acid- and leucine-rich protein 1 is mainly known as a coactivator for Estrogen Receptor activity, where it participates in complexes that facilitate transcription according to ER-mediated signals. Proline-, glutamic acid- and leucine-rich protein 1 interacts with a variety of signaling proto-oncogenes such as Src, HER2, and EGFR, which are known to contribute to tumor formation, and with hormonal pathways that can contribute to hormonal therapy resistance. The wide range of signaling functions makes Proline-, glutamic acid- and leucine-rich protein 1 susceptible to expression deregulation in hormone-centered cancers, particularly in Breast, Endometrial, Ovarian, and Prostate Tumors, as well as Ductal and Colorectal Carcinomas.A study has found that Proline-, glutamic acid- and leucine-rich protein 1 expression rate was the highest in breast cancers (70.5%) among different cancers. Compared to GATA3, Mammaglobin and GCDFP-15, Proline-, glutamic acid- and leucine-rich protein 1 was less sensitive than GATA3 for luminal cancers, but was the most sensitive for non-luminal cancers. Proline-, glutamic acid- and leucine-rich protein 1 has low expression rate (< 20%) in Colorectal Cancers, Gastric Cancers and Renal Cell Carcinomas, but higher in Lung Cancers (49.1%) and Ovarian Cancers (42.3%). Proline-, glutamic acid- and leucine-rich protein 1 expression was associated with poor outcome in non-luminal cancers and modified the prognostic effects of AR, suggesting the potential significance of NR co-regulator in prognostication. Another study found the overall value of the Proline-, glutamic acid- and leucine-rich protein 1 H-score in Breast cancer was significantly higher than that in breast fibroadenoma ($p<0.001$) with Breast Cancer patients, the ER/HER-2-positive group having significantly higher Proline-, glutamic acid- and leucine-rich protein 1 H-scores than their negative counterparts ($p=0.003$ for ER and $p=0.022$ for HER-2) and the Ki-67-high group also showed significantly higher Proline-, glutamic acid- and leucine-rich protein 1 H-scores than the Ki-67-low group.

Presentation
Five slides of Proline-, glutamic acid- and leucine-rich protein 1 positive tissues, each mounted on Hydrophilic Plus Slides, provided in a plastic mailer.

Catalog No.	*Quantity*
BSB-9342-CS	5 slides
BSB-3744-CS	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. Vadlamudi RK, Kumar R. Functional and biological properties of the nuclear receptor coregulator Proline-, glutamic acid- and leucine-rich protein 1/MNAR. Nucl Recept Signal. 2007;5:e004. Published 2007 May 17. doi:10.1621/nrs.050042. Choi YB, Ko JK, Shin J. The transcriptional corepressor, Proline-, glutamic acid- and leucine-rich protein 1, recruits HDAC2 and masks histones using two separate domains. J Biol Chem. 2004;279(49):50930-50941. doi:10.1074/jbc.M4068312003. Habashy HO, Powe DG, Rakha EA, et al. The prognostic significance of Proline-, glutamic acid- and leucine-rich protein 1 expression in invasive breast cancer with emphasis on the ER-positive luminal-like subtype. Breast Cancer Res Treat. 2010;120(3):603-612. doi:10.1007/s10549-009-0419-94. Cortez V, Mann M, Tekmal S, et al. Targeting the Proline-, glutamic acid- and leucine-rich protein 1-KDM1 axis as a potential therapeutic strategy for breast cancer [published correction appears in Breast Cancer Res. 2012;14(6):404]. Breast Cancer Res. 2012;14(4):R108. Published 2012 Jul 19. doi:10.1186/bcr32295. Chakravarty D, Tekmal RR, Vadlamudi RK. Proline-, glutamic acid- and leucine-rich protein 1: A novel therapeutic target for hormonal cancers. IUBMB Life. 2010;62(3):162-169. doi:10.1002/iub.2876. Wang X, Tsang JYS, Lee MA, et al. The Clinical Value of Proline-, glutamic acid- and leucine-rich protein 1 for Breast Cancer: A Comparison with Multiple Cancers and Analysis in Breast Cancer Subtypes. Cancer Res Treat. 2019;51(2):706-717. doi:10.4143/crt.2018.3167. Zhang Y, Wang P, Shi M, et al. The pattern of proline, glutamic acid, and leucine-rich protein 1 expression in Chinese women with primary breast cancer. Int J Biol Markers. 2014;29(1):e1-e7. Published 2014 Mar 24. doi:10.5301/jbm.50000788. 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

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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