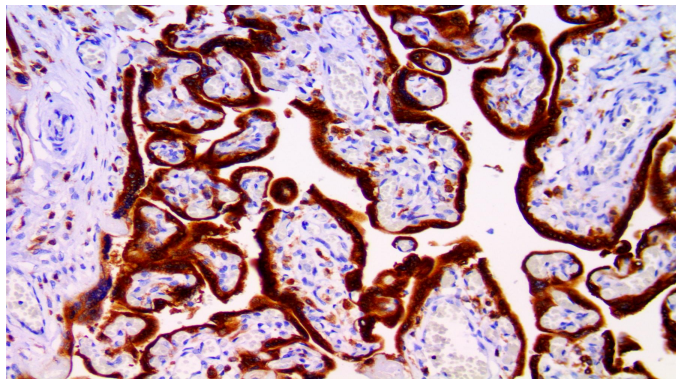


# IMP-3\1GF2BP3

**Clone:** EP286

Rabbit Monoclonal



*Inset: IHC of IMP-3/1GF2BP3 on a FFPE Placenta Tissue*

## Intended Use

For In Vitro Diagnostic Use.

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

A synthetic peptide corresponding to the human IMP-3 protein.

## Summary and Explanation

Insulin-like growth factor 2 mRNA-binding protein 3 is a protein that in humans is encoded by the IGF2BP3 gene. The protein encoded by this gene is primarily found in the nucleolus, where it can bind to the 5' UTR of the insulin-like growth factor II leader 3 mRNA and may repress translation of insulin-like growth factor II during late development. The encoded protein contains several K Homology domains, which are important in RNA binding and are known to be involved in RNA synthesis and metabolism. IMP3 is normally expressed in early embryonic tissues. The IHC of IMP3 may help in the classification of Non-small Cell Lung Carcinomas and Pancreatic Adenocarcinomas as well as subtypes of carcinomas from other organs such Renal Cell Carcinoma, Adenocarcinoma of the Uterine Cervix, Endometrial Carcinoma, Adenocarcinoma of the Esophagus, Malignant Melanoma, Merkel Cell Carcinoma, Urothelial Carcinoma, Neuroendocrine Carcinoma of the Lung, and triple negative breast cancer.

Various studies have found that IMP3 is a marker for malignancy and is correlated with increased tumor aggressiveness and reduced overall survival. The diagnosis of Pancreatic Ductal Adenocarcinoma (PDAC) in core needle biopsies can be challenging, and immunohistochemical studies of IMP3 expression have been found to be a potential new marker for the diagnosis of PDAC in core needle biopsies. IMP3 expression for the prognostic evaluation of non-small cell lung carcinomas has been found to exhibit mainly cytoplasmic staining pattern in the NSCLC tissues with a positive rate of IMP3 protein expression of 74.7% in the NSCLC tissues, a significantly higher than the rate of 19.9% in the adjacent non-tumor tissues. In the early- and late-stage NSCLC the disease-free and overall survival rates of the patients with IMP3 expression were significantly lower than those of the patients without IMP3 expression. IMP3 plays a significant role in the progression of NSCLC, and that it may potentially be used as an independent biomarker for prognostic evaluation. IMP3 may be a useful diagnostic marker in the assessment of endometrial cancers and their precursor lesions,

particularly when the amount of available tissue material is limited and a concern of type II cancer arises. High frequency of IMP3 expression is present in decidualized endometrial stroma of gestational endometrium and chorionic villi in early pregnancy.

<b>Antibody Type</b>	Rabbit Monoclonal	<b>Clone</b>	EP286
<b>Isotype</b>	IgG	<b>Reactivity</b>	Paraffin, Frozen
<b>Localization</b>	Cytoplasmic, Nuclear	<b>Species Reactivity</b>	Human, Predicted Mouse and Rat
<b>Control</b>	Placenta, Tonsil, Ovarian Carcinoma, Transitional Cell Carcinoma		
<b>Application</b>	Gall Bladder & Pancreatic Cancer, Lung Cancer, Kidney & Urothelial Cancer, Melanoma & Skin Cancer, Cervical Cancer, Endometrial & Genital Cancer, Colon & Gastrointestinal Cancer, Cytopathology		

## Presentation

Anti-IMP-3/1GF2BP3 is a Rabbit 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.

<b>Catalog No.</b>	<b>Presentation</b>	<b>Dilution</b>	<b>Volume</b>
BSB 2964	Predilute	Ready-to-Use	3.0 mL
BSB 2965	Predilute	Ready-to-Use	7.0 mL
BSB 2966	Predilute	Ready-to-Use	15.0 mL
BSB 2967	Concentrate	1:25-1:100	0.1 mL
BSB 2968	Concentrate	1:25-1:100	0.5 mL
BSB 2969	Concentrate	1:25-1:100	1.0 mL

## Control Slides Available

<b>Catalog No.</b>	<b>Quantity</b>
BSB-9242-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<sub>3</sub>) 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 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.

## Symbol Key / Légende des symboles/Erläuterung der Symbole

	QAdvis EAR AB Ideon Science Park Scheelevägen 17 SE-223 70 Lund, Sweden	 Storage Temperature Limites de température Zulässiger Temperaturbereich	 Manufacturer Fabricant Hersteller	 Catalog Number Référence du catalogue Bestellnummer
	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 Number Code du lot Chargenbezeichnung

## 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

1. Nielsen J, et al. A family of insulin-like growth factor II mRNA-binding proteins represses translation in late development. *Mol Cell Biol.* 1999; 19(2): 1262-70.
2. Mueller-Pillasch F, et al. Cloning of a gene highly overexpressed in cancer coding for a novel KH-domain containing protein. *Oncogene* 1997; 14 (22): 2729-33.
3. Wang T, Fan L, Watanabe Y, McNeill PD, Moulton GG, Bangur C, et al. L523S, an RNA-binding protein as a potential therapeutic target for lung cancer. *Br J Cancer* 2003;88:887-94.
4. Istvanic S, Fanger GR, Fraire AE, Khan A, Li C, Yantiss, RK. Spectrum of KOC (K homology domain containing protein over-expressed in cancer) immunostaining among carcinomas of different sites. *Mod Pathol* 2005;18:298A-9A.
5. Zheng W, et al. The oncofetal protein IMP3: a novel biomarker for endometrial serous carcinoma. *Am J Surg Pathol.* 2008; Feb;32(2):304-15.
6. Wachter DL, et al. Diagnostic value of immunohistochemical IMP3 expression in core needle biopsies of pancreatic ductal adenocarcinoma. *Am J Surg Pathol.* 2011; Jun;35(6):873-7.
7. Jinhui Zhang, et al. Clinical implications of insulin-like growth factor II mRNA-binding protein 3 expression in non-small cell lung carcinoma. *Oncol Lett.* 2015 Apr; 9(4): 1927-1933.
8. 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>