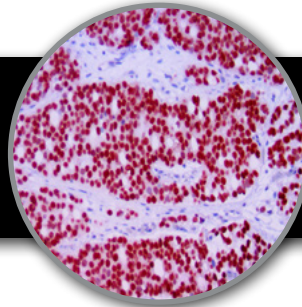


NKX3.1, RMab
Clone: EP356
 Rabbit Monoclonal



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Inset: IHC of NKX3.1 on a FFPE Prostatic Carcinoma 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.

* The NKX3.1 antibody, clone EP356, has been manufactured using Epitomics RabMab® technology covered under Patent No.'s 5,675,063 and 7,402,409.

Immunogen

A synthetic peptide corresponding to residues of human NKX3.1 protein.

Summary and Explanation

Homeobox protein NKX3.1, also known as BAPX2 and NKX3A is a protein that in humans is encoded by the NKX3.1 gene located on chromosome 8p. NKX3.1 is a prostatic tumor suppressor gene, which is an androgen-regulated, prostate-specific homeobox gene whose expression is predominantly localized in the prostate epithelium. It is a negative regulator of epithelial cell growth in prostate tissue. Loss of NKX3A protein expression is a common finding in human prostate carcinomas and prostatic intraepithelial neoplasia. NKX3-1 expression is seen in prostate epithelium, testis, ureter, and pulmonary bronchial mucous glands.

NKX3-1 has been established as a marker for identifying metastatic tumors. In a study the sensitivity for identifying metastatic Prostatic Adenocarcinomas was 98.6% for NKX3.1, 94.2% for PSA and 98.6% for PSAP and specificity of 99.7% for NKX3.1. NKX3.1-positive prostate carcinoma cells exhibit nuclear staining. Additionally, most cases of Urothelial Carcinoma have been found to be negative for NKX3.1 and may be helpful to distinguish between high grade Prostate Adenocarcinoma and high grade Infiltrating Urothelial Carcinoma. NKX3.1 has also been found to be expressed in Invasive Ductal Carcinomas (IDC) and Invasive Lobular Carcinomas (ILC) of the breast. NKX3.1 expression is limited to ER, PR, and AR positive carcinomas and is more frequently expressed in ILC than IDC. NKX3.1 has a high specificity and sensitivity for prostate adenocarcinomas and can be used to help distinguish between Prostate Carcinoma and Urothelial Carcinomas.

Antibody Type	Rabbit Monoclonal	Clone	EP356
Isotype	IgG	Reactivity	Paraffin, Frozen
Localization	Nuclear	Control	Prostate, Prostate Carcinoma
Species Reactivity	Human		

Presentation

NKX3.1 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.

Presentations

Catalog Num.	Antibody Type	Dilution	Volume/Qty
BSB 3113	Tinto Prediluted	Ready-to-Use	3.0 mL
BSB 3114	Tinto Prediluted	Ready-to-Use	7.0 mL
BSB 3115	Tinto Prediluted	Ready-to-Use	15.0 mL
BSB 3116	Concentrated	1:50 - 1:200	0.1 mL
BSB 3117	Concentrated	1:50 - 1:200	0.5 mL
BSB 3118	Concentrated	1:50 - 1:200	1.0 mL
BSB 3119	Control Slides	Not Applicable	5 slides

Precautions

1. For professional users only. Ensure results are interpreted by a medical professional.
2. This product contains sodium azide (NaN₃), a toxic chemical which may react with plumbing to form highly explosive build-ups of metal azides. Upon disposal, flush with large volumes of water to prevent sodium azide build-up.
3. Ensure proper handling procedures are used with reagent. Always wear proper laboratory equipment such as laboratory coat and gloves when handling reagents.
4. Unused solution should be disposed of according to local and federal regulations.
5. Do not ingest reagent. If reagent ingested, contact a poison control center immediately.
6. 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" (5).

Storage

Store at 2-8 °C. 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 to ensure 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 for labeling acetone-fixed frozen sections and acetone-fixed cell preparations.

Staining Procedure

1. Cut and mount 3-5 micron formalin-fixed paraffin-embedded tissues on positive 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 epitope retrieval 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 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 staining, perform antibody incubation at ambient temperature. For automated staining methods, perform antibody incubation according to instrument manufacturer's instructions.
8. Wash slides with IHC wash buffer or DI water.
9. Continue IHC staining protocol.

Recommended IHC 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	Varies	Varies	Varies









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 medical professional.

References

1. He WW., et al. A novel human prostate-specific, androgen-regulated homeobox gene (NKX3.1) that maps to 8p21, a region frequently deleted in prostate cancer. *Genomics*. 1997; 43 (1): 69-77
2. Gurel B, et al. NKX3.1 as a marker of prostatic origin in metastatic tumors. *The Am J Surg Pathol*. 2010; 34 (8): 1097-1105.
3. Abate-Shen C, et al. Integrating differentiation and cancer: the Nkx3.1 homeobox gene in prostate organogenesis and carcinogenesis. *Differentiation; Research in Biological Diversity*. 2008; 76 (6): 717-727.
4. Chuang AY, et al. Immunohistochemical differentiation of high-grade prostate carcinoma from urothelial carcinoma. *The American Journal of Surgical Pathology*. 2007; 31 (8): 1246-1255.
5. 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.

Symbol Key / Légende des symboles/Erläuterung der Symbole

	EMERGO EUROPE Prinsessegracht 20 2514 AP The Hague The Netherlands		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

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