NKX3.1

Prediluted Polyclonal Antibody
901-422-071223

BIOCARE MEDICAL

Available Product Formats				
Format	Catalog Number	Description	Dilution	Diluent
UltraLine – For BenchMark	AVI 422 G	6.0 mL	Ready-to-use	N/A

Intended Use:
For In Vitro Diagnostic Use
NKX3.1 is a rabbit polyclonal antibody that is intended for laboratory use in the qualitative identification of NKX3.1 protein by immunohistochemistry (IHC) in formalin-fixed paraffin-embedded (FFPE) human tissues. The clinical interpretation of any staining or its absence should be complemented by morphological studies using proper controls and should be evaluated within the context of the patient's clinical history and other diagnostic tests by a qualified pathologist.

Summary and Explanation:
NKX3.1 is a protein found in humans and is encoded by the NKX3.1[1] gene located on chromosome 8.[1] The homeodomain containing transcription factor NKX3A is a putative prostate tumor suppressor that is expressed in a largely prostate-specific and androgen-regulated manner.[1,2] NKX3.1 protein has been found to be positive in the vast majority of primary prostatic adenocarcinomas.[1,2] NKX3.1 stains nuclei in both normal and prostate cancer.[2] The addition of IHC staining for NKX3.1, along with other prostate-restricted markers, may prove to be a valuable adjunct to definitively determine prostatic origin in poorly differentiated metastatic carcinomas.[3,4]

Principle of Procedure:
Antigen detection in tissues and cells is a multi-step immunohistochemical process. The initial step binds the primary antibody to its specific epitope. After labeling the antigen with a primary antibody, a one-step or two-step detection procedure can be applied. A one-step procedure will feature an enzyme labeled polymer that binds the primary antibody. A two-step procedure will feature a linker antibody added to bind to the primary antibody. An enzyme-labeled polymer is then added to bind the linker antibody. These detections of the bound antibodies are evidenced by a colorimetric reaction.

Source: Rabbit polyclonal
Species Reactivity: Human; other species not tested.
Clone: N/A
Isotype: N/A
Protein Concentration: Lot specific Ig concentration is not available.
Epitope/Antigen: Human NKX3.1 protein
Cellular Localization: Nuclear
Positive Tissue Control: Normal prostate or prostate cancer

Known Applications:
Immunohistochemistry (formalin-fixed paraffin-embedded tissues)

Supplied As:
Buffered saline solution, pH 6.1-6.3, containing a protein carrier and less than 0.1% sodium azide preservative. See Safety Data Sheet for additional details.

Storage and Stability:
Store at 2ºC to 8ºC. The product is stable to the expiration date printed on the vial label when stored under these conditions. Do not use after expiration date. Storage under any condition other than those specified must be verified. Diluted reagents should be used promptly; store any remaining reagent at 2ºC to 8ºC. The stability of user diluted reagent has not been established by Biocare.

Protocol Recommendations (Ventana BenchMark ULTRA):
AVI422 is intended for use with the BenchMark ULTRA. Refer to the User Manual for specific instructions for use. Recommended protocol parameters are as follows:
Template/Detection: OptiView DAB IHC
Pretreatment Protocol: CC1 64 minutes
Peroxidase: Pre-Primary Peroxidase Inhibitor
Option (V-Blocker BRI4001): Incubate for 8 minutes (with appropriate Option # registered by user)
V-Blocker is recommended to be applied prior to any primary antibody.
Primary Antibody: 40 minutes, 36°C

Limitations:
The optimum antibody dilution and protocols for a specific application can vary. These include, but are not limited to fixation, heat-retrieval method, incubation times, tissue section thickness and detection kit used. Due to the superior sensitivity of these unique reagents, the recommended incubation times and titers listed are not applicable to other detection systems, as results may vary. The data sheet recommendations and protocols are based on exclusive use of Biocare products. Ultimately, it is the responsibility of the investigator to determine optimal conditions.

Quality Control:
Refer to CLSI Quality Standards for Design and Implementation of Immunohistochemistry Assays; Approved Guideline-Second edition (I/LA28-A2) CLSI Wayne, PA USA (www.clsi.org). 2011

Precautions:
1. This antibody contains less than 0.1% sodium azide. Concentrations less than 0.1% are not reportable hazardous materials according to U.S. 29 CFR 1910.1200, OSHA Hazard communication and EC Directive 91/155/EC. Sodium azide (NaN_3) used as a preservative is toxic if ingested. Sodium azide may react with lead and copper plumbing to form highly explosive metal azides. Upon disposal, flush with large volumes of water to prevent azide build-up in plumbing. (Center for Disease Control, 1976, National Institute of Occupational Safety and Health, 1976)[5]
2. Specimens, before and after fixation, and all materials exposed to them should be handled as if capable of transmitting infection and disposed of with proper precautions. Never pipette reagents by mouth and avoid contacting the skin and mucous membranes with reagents and specimens. If reagents or specimens come into contact with sensitive areas, wash with copious amounts of water.[6]
3. Microbial contamination of reagents may result in an increase in nonspecific staining.
4. Incubation times or temperatures other than those specified may give erroneous results. The user must validate any such change.
5. Do not use reagent after the expiration date printed on the vial.
6. The SDS is available upon request and is located at http://biocare.net.

Troubleshooting:
Follow the antibody specific protocol recommendations according to data sheet provided. If atypical results occur, contact Biocare's Technical Support at 1-800-542-2002.

References:

1. Bowen C, Gelmann EP. NKX3.1 activates cellular response to DNA damage. Cancer Res. 2010 Apr 15; 70(8):3089-97.
2. Gurel B, *et al.* NKX3.1 as a marker of prostatic origin in metastatic tumors. Am J Surg Pathol. 2010 Aug; 34(8):1097-105.
3. Chuang AY, *et al.* Immunohistochemical differentiation of high-grade prostate carcinoma from urothelial carcinoma. Am J Surg Pathol. 2007 Aug; 31(8):1246-55.
4. Gan Qiong, *et al.* Utility of NKX3.1 Immunostaining in the Detection of Metastatic Prostatic Carcinoma on Fine-Needle Aspiration Smears Am J Clin Pathol. 2019 October; 152:495-501.
5. Center for Disease Control Manual. Guide: Safety Management, NO. CDC-22, Atlanta, GA. April 30, 1976 "Decontamination of Laboratory Sink Drains to Remove Azide Salts."
6. Clinical and Laboratory Standards Institute (CLSI). Protection of Laboratory Workers from Occupationally Acquired Infections; Approved Guideline-Fourth Edition CLSI document M29-A4 Wayne, PA 2014.

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