

# Product Data Sheet

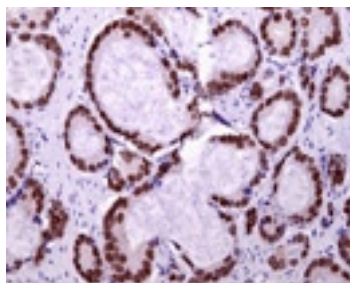
## Anti-human NKX3.1 IgG, 100 µg

Catalog Number: 0314

### Product Description

Anti-human NKX3.1 is the IgG fraction from rabbit anti-sera generated by immunizing the animals with purified recombinant human NKX3.1 protein. The immunogen corresponds to the amino-terminal 123 amino acids of the human protein.<sup>1</sup> The IgG fraction was prepared by Protein A affinity chromatography.

NKX3.1 is located on human chromosome 8p21.1. It is an androgen-regulated homeodomain gene with the expression of the NKX3.1 protein predominantly localized to prostate epithelial cells.<sup>2,3</sup> NKX3.1 has been shown to be a specific tissue marker of metastatic prostatic adenocarcinoma.<sup>3</sup> Sensitivity was reported to be 98.6% with a specificity of 99.7%.<sup>3</sup>



*A soft tissue metastasis stained with Anti-human NKX3.1.<sup>3</sup>*

### Instructions for Use

Anti-NKX3.1 is supplied as a 1.0 mg/ml solution in phosphate buffered saline. Store at 4°C. Dilute into the desired immunoassay buffer at the working concentration and use immediately. Do not store the antibody at the working concentration.

For use in immunohistochemistry, dilute to 0.1 to 1 µg/ml in PBS or 1% BSA.<sup>1</sup> The concentration of antibody needed for optimal results may vary and should be verified. For formalin-fixed paraffin embedded tissues, perform high-temperature antigen retrieval in 1mM EDTA, pH 8.0.

For use in Western blot, dilute to 0.01 to 1 µg/ml in Tris or phosphate buffered saline pH 7.3 with 2% carrier protein.<sup>4</sup> The concentration of antibody needed for optimal results may vary and should be verified.

For other types of immunoassays, it is recommended that the antibody be titrated to determine the optimal concentration.

### Storage Conditions

Store product at 4°C. Do not use beyond expiration date.

### Material Safety Data

FOR RESEARCH USE ONLY. NOT INTENDED OR APPROVED FOR HUMAN, DIAGNOSTICS OR VETERINARY USE. Do not ingest, swallow or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. For complete safety information see full Material Safety Data Sheet. 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<sub>3</sub>) 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)



Athena Enzyme Systems™

1450 South Rolling Road  
Baltimore, MD 21227

USA

a division of Athena Environmental Sciences, Inc.

T (MD): 410-455-6319

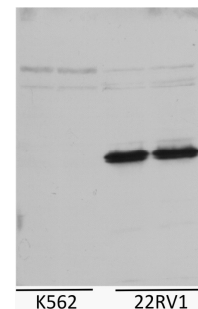
T (USA): 888-892-8408

F: 410-455-1155

support@athenaes.com

### Example Usage: Immunoblot

To demonstrate the specificity of the anti-human NKX3.1 antibody, 20 µg of total cell extract from human myelogenous leukemia K562 cells and prostate 22RV1 cancer cells were separated by SDS-PAGE and the proteins transferred to PVDF membrane. The membrane was blocked with 2% BSA/TBST for 1 hour and then reacted with anti-human NKX3.1 antibody. The antibody was diluted to a concentration of 1 µg/ml in 0.5% BSA/TBST and the reaction incubated for 1 hour at room temperature. The membrane was washed in TBST three times for 5 minutes each. To detect bound primary antibody, HRP conjugated goat anti-rabbit IgG antibody was diluted 1:10,000 in 0.5% BSA/TBST and incubated with the membrane at room temperature for 1 hour. The membrane was washed 3 times in TBST and developed using chemo-luminescence substrate. The light signals were captured on X-ray film. NKX3.1 protein was detected in prostate cells lysates (22RV1) but not in the leukemia cell lysates (K562).



### Ordering Information

Cat. No.	Description	Size
0317	Anti-human NKX3.1	100 µg

### References

- <sup>1</sup> Bethel, C. R. et al. 2006. Decreased NKX3.1 protein expression in focal prostatic atrophy, prostatic intraepithelial neoplasia and adenocarcinoma: association with Gleason score and chromosome 8p deletion. *Cancer Res.* 66:10683-10690.
- <sup>2</sup> Abate-Shen, C., Shen, M. M. and Gelmann, E. 2008. Integrating differentiation and cancer: the Nkx3.1 homeobox gene in prostate organogenesis and carcinogenesis. *Differentiation; research in biological diversity.* 76:717-727.
- <sup>3</sup> Gurel, B. et al. 2010. NKX3.1 as a marker of prostatic origin in metastatic tumors. *Am. J. Surg. Pathol.* 34(8):1097-1105.
- <sup>4</sup> Guan, B., Pungaliya, P. et al. 2008. Ubiquitination by TOPORS regulates the prostate tumor suppressor NKX3.1. *J. Biol. Chem.* 283(8):4834-4840.