

Localization – Nucleus
Host Species – Mouse
Ig Class – IgG2b, Lambda

Intended Use

This antibody is designed for the specific localization of NANOG in formalin-fixed, paraffin-embedded (FFPE) tissue sections.

Storage & Handling

Store RTU Vial at 2-8°C. Fresh dilutions for concentrated antibodies, if required, should be prepared prior to use and are stable for up to one day at room temperature (20-26°C).

Working Principle

IHC is a two-step process wherein the primary antibody binds to the antigen of interest and that binding is detected by a chromogen. The primary antibody may be used in IHC using manual techniques or any Automated Staining System. Positive and negative controls should always be run simultaneously with all patient specimens.

Product Description

The homeobox protein Nanog is a key transcription factor essential for maintaining the pluripotent state of embryonic stem cells (ESCs) by repressing genes involved in cellular differentiation. In humans, the NANOG gene encodes this regulatory protein. Nanog functions synergistically with other core pluripotency-associated transcription factors such as Oct-4 (POU5F1) and SOX2, collectively establishing and preserving ESC identity. Beyond its physiological role, Nanog is highly expressed in cancer stem cells, implicating it as a potential oncogenic driver involved in tumor initiation and progression. Elevated Nanog expression correlates with poor clinical outcomes and unfavorable prognosis across multiple malignancies. Immunohistochemically, Nanog demonstrates strong and specific nuclear expression in carcinoma in situ (CIS), embryonal carcinomas, and seminomas, while its expression is absent in teratomas and yolk sac tumors. Studies have shown that human embryonic stem cell-related genes, including OCT4, NANOG, STELLAR, and GDF3, are co-expressed in seminomas and certain breast carcinomas. Nanog positivity is prominently observed in high-grade ovarian serous carcinomas, with negligible expression in benign, borderline, or low-grade serous lesions. Additionally, subcellular localization studies have demonstrated cytoplasmic-nuclear shuttling of Nanog and its enhanced stromal expression during cervical carcinogenesis.

Material Supplied

NANOG antibody is affinity purified and diluted in PBS, pH 7.4, containing 1% BSA and 0.09% sodium azide.

Material required But Not Supplied

- Xylene
- Isopropyl alcohol
- Positive charged slides
- Wash Buffer
- DI Water
- Antigen retrieval buffers
- Blocking Reagents
- Detection System
- Control Tissues
- Hematoxylin
- Mounting media
- Cover glass

Working Reagent Procedure

- Ready-to-Use antibodies have been optimized for use with the recommended protocols and should not require further dilution.
- Concentrated antibodies must be diluted in accordance with the recommended protocol.

Recommended Protocol

Refer the following table for the details on specific recommended protocol for this antibody.

Control Tissue	Human testicular carcinoma	Antibody Incubation Time	30-60 Minutes at RT
Dilution factor	1:20-50 (Antibody Diluent: DH144)	Retrieval Pre-treatment	Tris-EDTA based HIER (AR9 Buffer: DH020)

Precautions

This product should be used by qualified and trained professional users only.

Avoid microbial contamination of reagents to minimize non-specific staining. Never pipette reagents by mouth. Avoid contact of reagents and specimens with skin. If reagents or specimens come into contact with sensitive area, wash with sufficient amounts of water. Dispose of the unused reagents. This kit contains sodium azide at concentrations of less than 0.1%. Sodium azide is not classified as a hazardous chemical at these concentrations, but proper handling protocols should be observed. For more information on product hazards, precautions and waste disposal, *Material Safety Data Sheets* are available upon request.

Limitations

Improper tissue handling and processing prior to immunostaining can lead to inconsistent results. Variations in embedding and fixation or the nature of the tissue may lead to variations in results. Endogenous peroxidase activity or pseudo peroxidase activity in erythrocytes and tissue biotin may result in non-specific staining based on the detection system employed. Tissues containing Hepatitis B Surface Antigen (HBsAg) may give false positive with horseradish peroxidase systems. Improper counterstaining and mounting may compromise the interpretation of results. Interpretation of the staining result is solely the responsibility of the user. Experimental results should be confirmed by a medically-established diagnostic product or procedure. Evaluation must be performed by a qualified pathologist.

Troubleshooting

For Technical Support contact us at +91 - 7506501122 or info@dygnova.com or your local distributor to report unusual staining.

Doc No: DH/DS/RB555Rev.00

	Manufacturer Details		Use by Date	LOT	Lot/Batch Number
	Manufacturing Date		Consult Instructions for Use	REF	Catalogue Number
	Temperature Limits		Sufficient for 'n' assays / tests	IVD	In-vitro Diagnostic Medical Device