

# CD57 (Natural Killer Cell)

Concentrated and Prediluted Monoclonal Antibody  
901-007-081718

**BIOCARE**  
M E D I C A L

<b>Catalog Number:</b>	<b>CM 007 B, C</b>	<b>PM 007 AA</b>	<b>OAI 007 T60</b>
<b>Description:</b>	0.5, 1.0 ml, concentrated	6.0 ml, prediluted	60 tests, prediluted
<b>Dilution:</b>	1:100	Ready-to-use	Ready-to-use
<b>Diluent:</b>	Da Vinci Green	N/A	N/A

## Intended Use:

For In Vitro Diagnostic Use

CD57 (Natural Killer Cell) [NK-1] is a mouse monoclonal antibody that is intended for laboratory use in the qualitative identification of CD57 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:

This antibody recognizes a 110 kDa protein on human lymphocyte cell surface that is identified as CD57. The CD57 clone NK-1 marks a subset of lymphocytes known as natural killer (NK) cells. Follicular center cell lymphomas often contain many NK cells within the neoplastic follicles. NK-1 reportedly also reacts with a variety of cell types in non-lymphoid tissues. NK-1 stains neuroendocrine cells and their respective tumors.

## 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. A secondary antibody may be applied to bind the primary antibody, followed by an enzyme labeled polymer; or an enzyme labeled polymer may be applied directly to bind the primary antibody. The detection of the bound primary antibody is evidenced by an enzyme-mediated colorimetric reaction.

**Source:** Mouse monoclonal

**Species Reactivity:** Human

**Clone:** NK-1

**Isotype:** IgM/kappa

**Total Protein Concentration:** ~10 mg/ml. Call for lot specific Ig concentration.

**Epitope/Antigen:** CD57

**Cellular Localization:** Cell membrane in germinal centers of lymph nodes or tonsils

**Positive Tissue Control:** Tonsil

## Known Applications:

Immunohistochemistry (formalin-fixed paraffin-embedded tissues)

**Supplied As:** Buffer with protein carrier and preservative

## Storage and Stability:

Store at 2°C to 8°C. Do not use after expiration date printed on vial. If reagents are stored under conditions other than those specified in the package insert, they must be verified by the user. Diluted reagents should be used promptly; any remaining reagent should be stored at 2°C to 8°C.

## Protocol Recommendations (intelliPATH and manual use):

**Peroxide Block:** Block for 5 minutes with Biocare's Peroxidized 1.

**Pretreatment:** Perform heat retrieval using Biocare's Reveal Decloaker. Refer to the Reveal Decloaker product data sheet for specific instructions.

**Protein Block (Optional):** Incubate for 5-10 minutes at RT with Biocare's Background Punisher.

**Primary Antibody:** Incubate for 30 minutes at RT.

**Probe:** Incubate for 10 minutes at RT with a secondary probe.

**Polymer:** Incubate for 10-20 minutes at RT with a tertiary polymer.

## Protocol Recommendations (intelliPATH and manual use) Cont'd:

**Chromogen:** Incubate for 5 minutes at RT with Biocare's DAB -OR- Incubate for 5-7 minutes at RT with Biocare's Warp Red.

## Counterstain:

Counterstain with hematoxylin. Rinse with deionized water. Apply Tacha's Bluing Solution for 1 minute. Rinse with deionized water.

## Protocol Recommendations (ONCORE Automated Slide Staining System):

OAI007 is intended for use with the ONCORE Automated Slide Staining System. Refer to the User Manual for specific instructions for use. Protocol parameters in the ONCORE Automated Slide Stainer Protocol Editor should be programmed as follows:

**Protocol Name:** CD57

**Protocol Template (Description):** Ms HRP Template 1

**Dewaxing (DS Option):** DS2

**Antigen Retrieval (AR Option):** AR2, low pH; 103°C

**Reagent Name, Time, Temp.:** CD57, 30 min., 25°C

## Technical Note:

This antibody, for intelliPATH and manual use, has been standardized with Biocare's MACH 4 detection system. Use TBS for washing steps.

## 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. The clinical interpretation of any positive or negative staining should be evaluated within the context of clinical presentation, morphology and other histopathological criteria by a qualified pathologist. The clinical interpretation of any positive or negative staining should be complemented by morphological studies using proper positive and negative internal and external controls as well as other diagnostic tests.

## 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](http://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<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) (7)

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

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### Precautions Cont'd:

and specimens. If reagents or specimens come in contact with sensitive areas, wash with copious amounts of water. (8)

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. Sanno N, *et al.* Immunohistochemical detection of human natural killer cell like immunoreactivity in human pituitary adenomas, using monoclonal antibody NK-1. *J Neurooncol.* 1997 Oct;35(1):29-38.

2. Papadimitriou CS, *et al.* Phenotype of Hodgkin and sternberg-Reed cells and expression of CD57 (Leu7) antigen. *Leuk Lymphoma.* 1995 Dec;20(1-2):125-30.

3. Atochina OV, *et al.* Monoclonal antibodies to the HNK-1 antigen of human natural killers. *Tsitologiya.* 1994; 36(9-10):1006-11.

4. Liu XH, *et al.* The prognostic value of the HNK-1 (Leu-7) antigen in prostatic cancer--an immunohistochemical study. *Hinyokika Kyo.* *Acta Urologica Japonica.* 1993; 39(5):439-44.

5. Kamel OW, *et al.* Leu 7 (CD57) reactivity distinguishes nodular lymphocyte predominance Hodgkin's disease from nodular sclerosing Hodgkin's disease, T-cell-rich-B-cell lymphoma and follicular lymphoma. *Am J Pathol.* 1993 Feb;142(2):541-6.

6. Ghali VS, Jimenez EJ, Garcia RL. Distribution of Leu-7 antigen (HNK-1) in thyroid tumors: its usefulness as a diagnostic marker for follicular and papillary carcinomas. *Human Pathology.* 1992; 23(1):21-5.

7. 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."

8. 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.