



CD57

Monoclonal Mouse Anti-CD57

Clone NK-1

REF 014-1099

Ready-To-Use ■ 100 Tests / 50 Tests

Concentrate ■ 1mL

INTENDED USE

IVD For in vitro diagnostic use.

Celerus monoclonal mouse anti-CD57, clone NK-1, is intended for laboratory use in identifying CD57 antigen in normal or neoplastic tissue using light microscopy. The CD57 antigen is present on 15–20% of normal peripheral blood mononuclear cells. It is expressed on a subset of natural killer cells (60%) and on a subset of T-lymphocytes. This antibody may be used with frozen or formalin-fixed paraffin-embedded tissues.

Positive results aid in the classification of normal and abnormal cells/tissues and serve as an adjunct to conventional histopathology. The clinical interpretation of any positive staining or its absence should be complemented by morphological and histological studies with proper controls. Evaluations should be made by a qualified individual in conjunction with the patient's clinical history and other diagnostic test results.

Refer to the Wave Instrument Operator's Manual for additional information concerning Materials Required but Not Provided; Storage; Staining Procedure; Troubleshooting; Interpretation of Staining; and General Limitations.

SUMMARY AND EXPLANATION

Antibody to CD57 recognizes a (MW ~ 110 kDa) oligosaccharide antigenic determinant on myeloid cells and on a variety of polypeptides, lipids and chondroitin sulfate proteoglycans. Follicular center cell lymphomas often contain many NK cells within the neoplastic follicles. This antibody stains neuroendocrine cells and their tumors, including carcinoid tumor, and medulloblastomas.

PRINCIPLE OF PROCEDURE

Immunohistochemistry is a multi-step process to identify specific cell markers within tissue biopsies or tumor specimens. The sequential steps include antigen retrieval (optional), antibody application, and antibody visualization followed by optional counterstaining. Specimens are then coverslipped and observed under light microscopy by trained personnel. Normally, multiple antibodies are tested to determine lineage and cell cycle markers. The Celerus Wave is an automated instrument that performs immunohistochemistry stains. For further information on the staining procedure, refer to the Celerus Wave Operator's Manual.

MATERIALS AND METHODS

Reagent Provided

Clone
NK-1

Ig Class

IgM , kappa

Immunogen

Human peripheral blood mononuclear cells.

Ready-To-Use in Primary Antibody Cartridge

Celerus anti-CD57 is provided with ProClin 300 as a preservative, in a Primary Antibody Cartridge (PAC), a self-contained dispenser of reagents. Each PAC contains sufficient reagent to complete 50 or 100 stained slides. PACs must remain upright to avoid spilling. PAC must be primed before first use. See Celerus Wave Operator's Manual for details.

Concentrated Antibody

Liquid

Liquid concentrated antibody is provided containing 15 mM sodium azide as a preservative and 1% bovine serum albumin as a carrier protein.

Lyophilized

Lyophilized antibody is provided containing 15mM sodium azide as a preservative. Reconstitute vial with 1.0 ml distilled water.

Dilution

The suggested dilution is 1:20–1:40. This is a guide only and users should determine their own optimal working dilutions.

SPECIFICITY

Anti-CD57 (NK-1) recognizes the CD57 oligosaccharide antigenic determinant (MW ~ 110 kDa).

MATERIALS REQUIRED BUT NOT PROVIDED

- Wave instrument
- Wave slide rack
- Positively-charged microscope slides, appropriately labeled
- Timer
- Celerus Riptide for antigen retrieval (or equivalent)
- Celerus Target Retrieval Solution (or equivalent)
- Slide drying chamber
- Xylene or xylene substitute
- Reagent alcohol or ethyl alcohol
- Distilled or deionized water
- TBS wash buffer, pH 7.6
- Positive and negative tissue controls
- Celerus Negative Control Reagent (or equivalent)
- Mounting Medium
- Cover slips

STORAGE AND HANDLING

Ready-to-Use PAC, Liquid Concentrated and Lyophilized Antibody

Store reagent at 2–8 °C. Do not freeze. The reagent is stable until the expiration date on the container. Do not use reagent after the expiration date, as the activity cannot be ensured.

Reconstituted Antibody

For reconstituted antibody, the reagent is stable for at least two months when stored at 4 °C. For long-term storage it is recommended that aliquots of the antibody be stored at -20 °C. Repeated freezing and thawing of the antibody should be avoided.

There are no signs to indicate instability of this reagent. To ensure a valid staining assay, the use of positive and negative tissue controls is recommended. Contact your Celerus representative if there are stability concerns prior to the expiration date.

PRECAUTIONS

- For professional users.
- Minimize microbial contamination of reagents or an increase in nonspecific staining may occur.
- As with any product derived from biological sources, proper handling procedures should be used.
- A Material Safety Data Sheet is available for professional users on request.
- ProClin 300 is classified per applicable European Community (EC) Directives as: Irritant (Xi). The following are the appropriate Risk (R) and Safety (S) phrases.



R36 Irritating to eyes

R43 May cause sensitization by skin contact

S24 Avoid contact with skin

S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice

S35 This material and its container must be disposed of in a safe way

S37/39 Wear suitable gloves and eye/face protection

S46 If swallowed, seek medical advice immediately and show this container or label.

WASTE DISPOSAL

Adhere to all local laws when disposing of the PAC.

PACKAGING DAMAGE

DO NOT USE a PAC if it is leaking, has leaked, has spilled, cannot be primed, or has visually apparent physical damage.

SPECIMEN COLLECTION AND HANDLING

Formalin-fixed paraffin embedded (FFPE) tissues, frozen tissues, or smears are suitable for use. Wave detection kits have been optimized for tissues fixed with 10% formalin. Ideally, each 4–6µ tissue section should be placed on charged slides on the lower 2/3 of the slide. Very large sections should be placed 1/4 inch below the lower end of the slide label.

Slides should be baked overnight at 37 °C, or at 60 °C for one hour.

Use standard histochemical techniques to deparaffinize processed slides. For uniformity of staining results, it is recommended that target retrieval be performed using the Celerus Riptide and Celerus Target Retrieval Solution (or equivalent) at 112 °C for 5 minutes. Avoid drying of the tissue specimen during this process. After all slides to be stained have been inserted and reagents mounted on the instrument, start the staining run.

When the slides have completed the staining run, remove them from the instrument, coverslip, and view under light microscopy.

PRODUCT-SPECIFIC LIMITATIONS

CD57 antibody, when used on the Wave instrument, detects antigens that survive routine formalin fixation, tissue processing, and sectioning. Users who deviate from recommended test procedures are responsible for interpretation and validation of patient results.

RESULTS EXPECTED / PERFORMANCE CHARACTERISTICS

Normal Tissues

This antibody labels a subpopulation of lymphocytes in lymph node, tonsil, liver, and colon. In brain, the antibody labels all cells, except for endothelial cells. The antibody labels epithelial cells in breast and prostatic tissue. In pancreas, the antibody labels more than 50% of islet cells.

Abnormal Tissues

The antibody labels astrocytomas, intestinal carcinoid tumors, ependymomas, oligodendrogliomas, and non-small cell lung carcinomas.

REFERENCES

Funaro A, Cafforio P, Horenstein A, Magrini E, Ardeleanu C, Geuna M, et al. NK5. Human CD57, a link molecule between leucocytes and neural cells. In: Schlossman SF, Boumsell L, Gilks W, Harlan JM, Kishimoto T, Morimoto C, et al., editors. Leucocyte typing V. White cell differentiation antigens. Proceedings of the 5th International Workshop and Conference; 1993 Nov 3–7; Boston, USA. Oxford, New York, Tokyo: Oxford University Press; 1995. Volume 2. p. 1435–6.

Funaro A, Malavasi F. NK5. CD57 Workshop panel report. In: Kishimoto T, Kikutani H, von dem Borne AEG, Goyert SM, Mason DY, Miyasaka M, et al., editors. Leucocyte typing VI. White cell differentiation antigens. Proceedings of the 6th International Workshop and Conference; 1996 Nov 10–14; Kobe, Japan. New York, London: Garland Publishing Inc.; 1997. p. 274–6.

Mechtersheimer G, Staudter M, and Möller P. Expression of the Natural Killer Cell-associated Antigens CD56 and CD57 in Human Neural and Striated Muscle Cells and in Their Tumors. Cancer Res. 1991; 51, 1300–1307.

Palmer BE, Blyveis N, Fontenot AP, and Wilson CC. Functional and Phenotypic Characterization of CD57+ CD4+ T Cells and Their Association with HIV-1-Induced T Cell Dysfunction. J Immunol, 2005; 175: 8415–8423.

Palmer BE, Mack DG, Martin AK, MS, Maier LA, and Fontenot AP. CD57 expression correlates with alopecia severity in subjects with beryllium-induced disease. J Allergy Clin Immunol 2007;120:184–91.

Mizutani K, Oka N, Kaji R, Matsui M, Asanuma K, Kubori T, Kojima Y, Kanda M, Kawashishi T, Tomimoto H, Akiguchi I, Shibasaki H. CD16+CD57– Natural Killer Cells in Multifocal Motor Neuropathy. Eur Neurol 2005;53:64–67.



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