P.O. Box 3286 - Logan, Utah 84323, U.S.A. - Tel. (800) 729-8350 – Tel. (435) 755-9848 - Fax (435) 755-0015 - www.ScyTek.com

CD57 (HNK-1); Clone NK-1

Catalog Number	Format	Volume
A00117-0002	(Ready-To-Use)	2 ml
A00117-0007	(Ready-To-Use)	7 ml
A00117-0025	(Ready-To-Use)	25 ml
A00117-C.1	(Concentrate)	0.1 ml
A00117-C	(Concentrate)	1 ml

Intended Use

For In-Vitro Diagnostic Use. This antibody is intended for the qualitative visualization of the anatomical elements listed in the Specificity section. It is intended to be used within an Immunohistochemistry (IHC) procedure on formalin-fixed paraffin-embedded (FFPE) human tissue followed by visualization by light microscopy.

Description

Titer/Working Dilution: Ready-to-Use: No further dilution required.
Concentrate: Suggested dilution is 1:50-100

Species: Mouse

Immunogen: Human peripheral blood mononuclear cells were used as immunogen.

Clone: NK-1

Isotype: Mouse IgM, Kappa

Format: Ready-To-Use antibody has been pre-titered and quality controlled to work on formalin-fixed paraffin-embedded as well as acetone fixed cryostat tissue sections. No further titration is required.
Concentrate antibody is provided in a phosphate buffered saline containing 1% BSA.

Specificity: The NK1 antibody clone recognizes the glycoepitope referred to as both CD57 and HNK1.

Background: CD57 is a terminally sulfated glycan carbohydrate epitope (glycoepitope) first discovered on HNK (human natural killer) cells in 1981. CD57 is also referred to as CD57 antigen and HNK1. CD stands for cluster of differentiation and HNK1 for human natural killer1. Historically, the term CD57 has been used in immunology and antibody to CD57 is important for defining lymphocytic subpopulations. CD57 antibody positive lymphocytes are typically either T or NK cells and are commonly found within the germinal centers of the spleen, lymph nodes and tonsils. CD57 antibody positivity in T lymphocytes has long been used as a marker of in vitro replicative senescence (clonal exhaustion). CD57 antibody positive T lymphocytes have a high susceptibility to activation-induced death. CD57 upregulation or unusual CD57 antibody positivity patterns have been identified in diseases including autoimmunity, chronic infections, and malignancies. Increased CD57 antibody positivity has also been associated with aging, allogenic transplantation, and even physical and psychological stress.

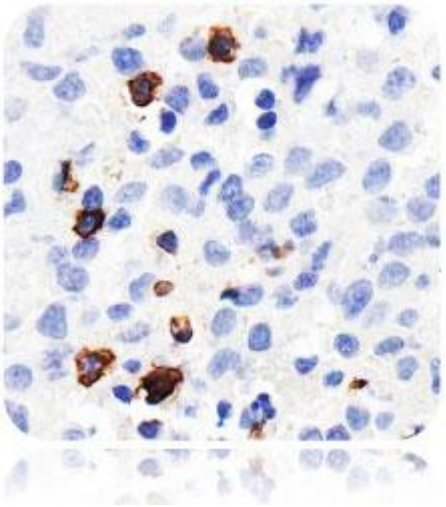
It is increasingly being recognized that CD57 has important roles in the nervous system where it most often referred to as HNK1. HNK1 (CD57) is predominantly expressed in brain and peripheral nerve tissue where it is involved in development, homeostasis, normal development and neurogenic pathology. For example, HNK1 antibody positivity has been used as a marker to identify neuroendocrine cells and their tumors as expression is high in both. It is also notable that HNK1 autoantibodies have been detected in peripheral demyelinating neuropathy underscoring the importance of the immune system in neurological function.

Species Reactivity: Human. Others not known.
Positive Control: Tonsil, spleen, lymph node.
Cellular Localization: Cell membrane.
Microbiological State: Nonsterile

Materials and Reagents Required but not Provided

1. Control tissue and reagents
2. Xylene, graded alcohols, and deionized/distilled water
3. Antibody Diluent.
4. IHC detection system. Suggested: ScyTek Cat# ABZ125 “CRF Anti-Polyvalent HRP Polymer” and ScyTek Cat# ACV500 “DAB Chromogen/Substrate Kit (High Contrast)”.
5. Wash buffer for rinses (ScyTek Cat# TBT500)
6. HIER Retrieval Solution
7. Hematoxylin counterstain and bluing reagent (ScyTek Cat# HMM500 and BRT500)
8. Mounting medium and coverslips

Note: ScyTek Laboratories has a wide range of IHC reagents and ancillaries that can be found at scytek.com.



Procedure

1. **Tissue Section Pretreatment (Highly Recommended):** Staining of formalin fixed paraffin embedded tissue sections is significantly enhanced by pretreatment with Tis-EDTA HIER Solution (10x) pH 9.0 (ScyTek catalog# TES500) or Citrate Plus (10x) HIER Solution (ScyTek catalog# CPL500)

Storage: 2° C 8° C

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2. **Primary Antibody Incubation Time:** We suggest an incubation period of 30 minutes at room temperature. However, depending upon the fixation conditions and the staining system employed, optimal incubation should be determined by the user.

3. **Visualization:** For maximum staining intensity we recommend the "CRF Anti-Polyvalent HRP Polymer" (ScyTek catalog# ABZ125, see IFU for instructions) combined with the "DAB Chromogen/Substrate Bulk Pack (High Contrast)" (ScyTek catalog# ACV500, see IFU for instructions).

Storage and Stability

Do not Freeze. Store at 2-8°C. Return to 2-8° immediately after use. Do not use after expiration date printed on label. Verify visually that antibody has not been contaminated before use. Do not use if reagent becomes cloudy or precipitates.

Limitations

Immunohistochemistry is a complex technique involving both histological and immunological detection methods. Tissue processing and handling prior to immunostaining can cause inconsistent results. Variations in fixation and embedding or the inherent nature of the tissue specimen may cause variations in results. Endogenous peroxidase activity or pseudoperoxidase activity in erythrocytes and endogenous biotin may cause non-specific staining depending on detection system used. This data sheet's recommendations and procedures were validated using ScyTek IHC reagents and may not be suitable for other detection systems.

Precautions

1. Contains Sodium Azide as a preservative (0.09% w/v), do not ingest. 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. This product contains no hazardous material at a reportable concentration according to U.S. 29 CFR 1910.1200, OSHA Hazardous Communication Standard and EC Directive 91/155/EC.
2. Do not pipette by mouth.
3. Avoid contact of reagents and specimens with skin and mucous membranes.
4. Avoid microbial contamination of reagents or increased nonspecific staining may occur.
5. The user must validate any procedures and recommendations that differ from this data sheet.
6. The SDS may be found at scytek.com

References

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2. Guarino M. Pathol Res Pract 189:913-920 (1993).
3. Cavazzana AO, V Ninfo, J Roberts, TJ Triche. Modern Pathol 5:71-78 (1992).
4. Focosi D, M Bestagno, O Burrone, M Petrini. J Leukoc Biol. 87:107-116 (2010).
5. Kizuka Y, S Oka. Cell Mol Life Sci. DOI 10.1007/s00018-012-1036-z (2012).

Warranty

No products or "Instructions For Use (IFU)" are to be construed as a recommendation for use in violation of any patents. We make no representations, warranties or assurances as to the accuracy or completeness of information provided on our IFU or website. Our warranty is limited to the actual price paid for the product. ScyTek Laboratories, Inc. is not liable for any property damage, personal injury, time or effort or economic loss caused by our products.

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