

CD57 (Natural Killer Cell Marker) Ab-1 (Clone NK1)

Mouse Monoclonal Antibody

Cat. #DLN-07614, DLN-07615, or DLN-07613 (0.1ml, 0.5ml, or 1.0ml at $200\mu g/ml$) (Purified Ab with BSA and Azide)

Cat. #DLN-07616 or DLN-07617 (0.1ml or 0.2ml at 1.0mg/ml) (Purified Ab without BSA and Azide)

Cat. #DLN-07618 (7.0ml) (Ready-to-Use for Immunohistochemical Staining)

Description: CD57 is expressed on a subpopulation of 15-20% of peripheral blood mononuclear cells, about 60% of NK active cells and on a subset of T cells.

Comments: Ab-1 marks a subset of lymphocytes known as natural killer (NK) cells. Ab-1 also reacts with a variety of cell types in non-lymphoid tissues. It stains neuroendocrine cells and their tumors.

Mol. Wt. of Antigen:110kDa

Epitope: Not determined

Species Reactivity: Human. Does not react with rat. Others-not known.

Clone Designation: NK1

Ig Isotype / Light Chain: IgM / к

Immunogen: Human peripheral blood mononuclear cells

Applications and Suggested Dilutions:

- Flow Cytometry
- Immunohistology (Formalin/paraffin) (Ab 1-2µg/ml for 30 min at RT)
- * (No special pretreatment is required for immuno-histochemical staining of formalin-fixed, paraffin-embedded tissues)

The optimal dilution for a specific application should be determined by the investigator.

Positive Control: Lymph node or tonsil

Cellular Localization: Cell membrane

Supplied As:

 $200\mu g/ml$ antibody purified from the ascites fluid by ammonium sulfate precipitation and prepared in 10mM PBS, pH 7.4, with 0.2% BSA and 0.09% sodium azide. Also available without BSA and azide at 1mg/ml,

or

Prediluted antibody which is ready-to-use for staining of formalin-fixed, paraffin-embedded tissues.



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Cat. #DLN-07616 or DLN-07617 (0.1ml or 0.2ml at 1.0mg/ml) (Purified Ab without BSA and Azide) Cat. #DLN-07618 (7.0ml) (Ready-to-Use for Immunohistochemical Staining)

Storage and Stability:

Ab with sodium azide is stable for 24 months when stored at 2-8 $^{\circ}$ C. Antibody WITHOUT sodium azide is stable for 36 months when stored at below 0 $^{\circ}$ C.

Suggested References:

- 1. Abo T; Balch CM. J Immunol, 1982, 129(4):1758-61.
- 2. Abo T; et al. J Immunology, 1982, 129:1752-7.

Limitations and Warranty:

Our products are intended FOR RESEARCH USE ONLY and are not approved for clinical diagnosis, drug use or therapeutic procedures. No products 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 data sheets and website. Our warranty is limited to the actual price paid for the product. Dianova is not liable for any property damage, personal injury, time or effort or economic loss caused by our products.

Material Safety Data:

This product is not licensed or approved for administration to humans or to animals other than the experimental animals. Standard Laboratory Practices should be followed when handling this material. The chemical, physical, and toxicological properties of this material have not been thoroughly investigated. Appropriate measures should be taken to avoid skin and eye contact, inhalation, and ingestion. The material contains 0.09% sodium azide as a preservative. Although the quantity of azide is very small, appropriate care should be taken when handling this material as indicated above. The National Institute of Occupational Safety and Health has issued a bulletin citing the potential explosion hazard due to the reaction of sodium azide with copper, lead, brass, or solder in the plumbing systems. Sodium azide forms hydrazoic acid in acidic conditions and should be discarded in a large volume of running water to avoid deposits forming in metal drainage pipes.

For Research Use Only

Additional Suggested References:



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- Guarino M. Plexiform schwannoma. Immunohistochemistry of Schwann cell markers, intermediate filaments and extracellular matrix components. Pathology, Research and Practice, 1993, 189(8):913-20.
- 2. Liu XH; Yoshiki T; Kokuho M; Okada Y; Tomoyoshi T; Higuchi K. The prognostic value of the HNK-1 (Leu-7) antigen in prostatic cancer--an immunohistochemical study. Hinyokika Kiyo. Acta Urologica Japonica, 1993, 39(5):439-44.
- 3. Cavazzana AO; Ninfo V; Roberts J; Triche TJ. Peripheral neuroepithelioma: a light microscopic, immunocytochemical, and ultrastructural study. Modern Pathology, 1992, 5(1):71-8.
- 4. 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.
- 5. Ball ED; Powers FJ; Vredenburgh JJ; Heath CA; Converse AO. Purging of small cell lung cancer cells from bone marrow using immunomagnetic beads and a flow-through device. Bone Marrow Transplantation, 1991, 8(1):35-40.
- Artlich A; Schmidt D. Immunohistochemical profile of meningiomas and their histological subtypes. Human Pathology, 1990, 21(8):843-9.
- 7. Bonilla F; Alvarez-Mon M; Merino F; Giron JA; Menendez JL; Espana P; Durantez A. Natural killer activity in patients with breast cancer. European Journal of Gynaecological Oncology, 1990, 11(2):103-9.
- 8. Carballido J; Alvarez-Mon M; Solovera OJ; Menendez-Ondina L; Durantez A. Clinical significance of natural killer activity in patients with transitional cell carcinoma of the bladder. Journal of Urology, 1990, 143(1):29-33.
- 9. Dabholkar M; Tatake RJ; Advani S; Gangal SG. Studies on natural killer cells in chronic myeloid leukemia patients in remission. Neoplasma, 1990, 37(1):47-53.
- Gray MH; Smoller BR; McNutt NS; Hsu A. Neurofibromas and neurotized melanocytic nevi are immunohistochemically distinct neoplasms. American Journal of Dermatopathology, 1990, 12(3):234-41.
- 11. Longacre TA; Listrom MB; Spigel JH; Willman CL; Dressler L; Clark D. Aggressive jejunal lymphoma of large granular lymphocytes. Immunohistochemical, ultrastructural, molecular, and DNA content analysis [see comments]. American Journal of Clinical Pathology, 1990, 93(1):124-32.
- 12. Pandolfi F; Loughran TP Jr; Starkebaum G; Chisesi T; Barbui T; Chan WC; Brouet JC; De Rossi G; McKenna RW; Salsano F; et al. Clinical course and prognosis of the lymphoproliferative disease of granular lymphocytes. A multicenter study. Cancer, 1990, 65(2):341-8.
- 13. Prasadarao N; Tobet SA; Jungalwala FB. Effect of different fixatives on immunocytochemical localization of HNK-1-reactive antigens in cerebellum: a method for differentiating the localization of the same carbohydrate epitope on proteins vs lipids. Journal of Histochemistry and Cytochemistry, 1990, 38(8):1193-200.
- 14. van den Berg LH; Sadiq SA; Thomas FP; Latov N. Characterization of HNK-1 bearing glycoproteins in human peripheral nerve myelin. Journal of Neuroscience Research, 1990, 25(3):295-9.
- 15. Lizard-Nacol S; Lizard G; Justrabo E; Turc-Carel C. Immunologic characterization of Ewing's sarcoma using mesenchymal and neural markers. American Journal of Pathology, 1989, 135:847-55.
- 16. Llombart-Bosch A; Terrier-Lacombe MJ; Peydro-Olaya A; Contesso G. Peripheral neuroectodermal sarcoma of soft tissue (peripheral neuroepithelioma): a pathologic study of ten cases with differential diagnosis regarding other small, round-cell sarcomas. Human Pathology, 1989, 20(3):273-80.
- 17. Mukhopadhyaya R; Tatake RJ; Krishnan N; Rao RS; Fakih AR; Naik SL; Gangal SG. Immunoreactivity of lymphocytes from draining lymph nodes, peripheral blood and tumor infiltrates from oral cancer patients. Journal of Clinical and Laboratory Immunology, 1989, 30(1):21-5.
- 18. Pilkington GR; Pallesen G. Phenotypic characterization of non-haemopoietic small cell tumours of childhood with monoclonal antibodies to leucocytes, epithelial cells and cytoskeletal proteins. Histopathology, 1989, 14(4):347-57.
- 19. Pinto A; Grant LH; Hayes FA; Schell MJ; Parham DM. Immunohistochemical expression of neuron-specific enolase and Leu 7 in Ewing's sarcoma of bone. Cancer, 1989, 64(6):1266-73.
- 20. Tsokos M; Kouraklis G; Chandra RS; Bhagavan BS; Triche TJ. Malignant rhabdoid tumor of the kidney and soft tissues. Evidence for a diverse morphological and immunocytochemical phenotype. Archives of Pathology and Laboratory Medicine, 1989, 113(2):115-20.





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- 21. Yuda F; Terashima K; Dobashi M; Ishikawa M; Imai Y. Ultrastructural analysis of HNK-1+ cells in human peripheral blood and lymph nodes. Histology and Histopathology, 1989, 4(2):137-52.
- 22. de Luaces CP; Peral JI; Garcia Tejeiro M; Aguirre C. Immunophenotypic characterization of primary and secondary lymphoid follicles. Histology and Histopathology, 1988, 3(1):69-80.
- 23. Lizard-Nacol S; Mugneret F; Turc-Carel C; Justrabo E. Immunohistological characterization of a Ewing's sarcoma case. Cancer Detection and Prevention, 1988, 12(1-6):297-302.
- 24. Mikata A; Suzuki H; Ohkawa H. Immunohistochemical studies on B cell lymphomas with special reference to T cell infiltration and its significance as a prognostic factor. Acta Pathologica Japonica, 1988, 38(1):47-58.
- 25. Herait P; Ganem G; Lipinski M; Carlu C; Micheau C; Schwaab G; De-The G; Tursz T. Lymphocyte subsets in tumour of patients with undifferentiated nasopharyngeal carcinoma: presence of lymphocytes with the phenotype of activated T cells. British Journal of Cancer, 1987, 55(2):135-9.
- 26. McMillan E; Stoneking LE. Identification and possible significance of HNK-1+ human lymphocytes, macrophages, and non-neoplastic T-cells in cutaneous lymphoma. American Journal of Dermatopathology, 1987, 9(1):2-9.
- 27. Picker LJ; Furst A; Robinson SH; Kadin ME. Immunoarchitecture of the bone marrow in neutropenia: increased HNK-1 + cells define a subset of neutropenic patients. American Journal of Hematology, 1987, 25(1):29-41.
- 28. Chou DK; Ilyas AA; Evans JE; Costello C; Quarles RH; Jungalwala FB. Structure of sulfated glucuronyl glycolipids in the nervous system reacting with HNK-1 antibody and some IgM paraproteins in neuropathy. Journal of Biological Chemistry, 1986, 261(25):11717-25.
- 29. Fujimiya Y; Bakke A; Chang WC; Linker-Israeli M; Udis B; Horwitz D; Pattengale PK. Natural killer-cell immunodeficiency in patients with chronic myelogenous leukemia. I. Analysis of the defect using the monoclonal antibodies HNK-1 (LEU-7) and B73.1. International Journal of Cancer, 1986, 37(5):639-49.
- 30. Kivela T. Expression of the HNK-1 carbohydrate epitope in human retina and retinoblastoma. An immunohistochemical study with the anti-Leu-7 monoclonal antibody. Virchows Archiv. a, Pathological Anatomy and Histopathology, 1986, 410(2):139-46.
- 31. Kodama T; Watanabe S; Sato Y; Shimosato Y; Miyazawa N. An immunohistochemical study of thymic epithelial tumors. I. Epithelial component. American Journal of Surgical Pathology, 1986, 10(1):26-33...
- 32. Mortari F; Bains MA; Singhal SK. Immunoregulatory activity of human bone marrow. Identification of suppressor cells possessing OKM1, SSEA-1, and HNK-1 antigens. Journal of Immunology, 1986, 137(4):1133-7.
- 33. Perentes E; Rubinstein LJ. Immunohistochemical recognition of human neuroepithelial tumors by anti-Leu 7 (HNK-1) monoclonal antibody. Acta Neuropathologica, 1986, 69(3-4):227-33.
- 34. Ring NP; Addis BJ. Thymoma: an integrated clinicopathological and immunohistochemical study. Journal of Pathology, 1986, 149(4):327-37.
- 35. Riopelle RJ; McGarry RC; Roder JC. Adhesion properties of a neuronal epitope recognized by the monoclonal antibody HNK-1. Brain Research, 1986, 367(1-2):20-5.
- 36. Shashoua VE; Daniel PF; Moore ME; Jungalwala FB. Demonstration of glucuronic acid on brain glycoproteins which react with HNK-1 antibody. Biochemical and Biophysical Research Communications, 1986, 138(2):902-9.
- 37. Tischler AS; Mobtaker H; Mann K; Nunnemacher G; Jason WJ; Dayal Y; Delellis RA; Adelman L; Wolfe HJ. Antilymphocyte antibody Leu-7 (HNK-1) recognizes a constituent of neuroendocrine granule matrix. Journal of Histochemistry and Cytochemistry, 1986, 34(9):1213-6.
- 38. Ueda G; Yamasaki M; Inoue M; Tanaka Y; Inoue Y; Abe Y; Tanizawa O. Immunohistochemical demonstration of HNK-1-defined antigen in gynecologic tumors with argyrophilia. International Journal of Gynecological Pathology, 1986, 5:143-50
- 39. Cole SP; Mirski S; McGarry RC; Cheng R; Campling BG; Roder JC. Differential expression of the Leu-7 antigen on human lung tumor cells. Cancer Research, 1985, 45(9):4285-90.
- 40. Dickinson AM; Proctor SJ; Jacobs E; Reid MM; Walker W; Craft AW; Kernahan J. Natural killer cell activity in childhood acute lymphoblastic leukaemia in remission. British Journal of Haematology, 1985, 59(1):45-53.





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- 41. Fregona I; Guttmann RD; Jean R. HNK-1+ (Leu-7) and other lymphocyte subsets in long-term survivors with renal allotransplants. Transplantation, 1985, 39(1):25-9.
- 42. Kang YH; Carl M; Watson LP; Yaffe L. Immunoelectron microscopic identification of human NK cells by FITC-conjugated anti-Leu-11a and biotinylated anti-Leu-7 antibodies. Journal of Immunological Methods, 1985, 84(1-2):177-96.
- 43. Manara GC; De Panfilis G; Ferrari C. Ultrastructural characterization of human large granular lymphocyte subsets defined by the expression of HNK-1 (Leu-7), Leu-11, or both HNK-1 and Leu-11 antigens. Journal of Histochemistry and Cytochemistry, 1985, 33(11):1129-33.
- 44. Mori S; Yamaguchi K; Morita H; Mohri N. Distribution of HNK-1+ cells in malignant lymphomas. Acta Pathologica Japonica, 1985, 35(2):339-50.
- 45. Moy PM; Holmes EC; Golub SH. Depression of natural killer cytotoxic activity in lymphocytes infiltrating human pulmonary tumors. Cancer Research, 1985, 45(1):57-60.
- 46. Perentes E; Rubinstein LJ. Immunohistochemical recognition of human nerve sheath tumors by anti-Leu 7 (HNK-1) monoclonal antibody. Acta Neuropathologica, 1985, 68:319-24.
- 47. Rusthoven JJ; Robinson JB; Kolin A; Pinkerton PH. The natural-killer-cell-associated HNK-1 (Leu-7) antibody reacts with hypertrophic and malignant prostatic epithelium. Cancer, 1985, 56:289-93.
- 48. Schuurman HJ; Kluin PM; de Gast GC; Kater L. HNK-1+ cells in non-Hodgkin's lymphoma: lack of relation with transferrin receptor expression on malignant cells. British Journal of Cancer, 1985, 51(2):171-7.
- 49. Smolle J; Konrad K; Kerl H. Granular cell tumors contain myelin-associated glycoprotein. An immunohistochemical study using Leu 7 monoclonal antibody. Virchows Archiv. a, Pathological Anatomy and Histopathology, 1985, 406(1):1-5.
- 50. Swerdlow SH; Habeshaw JA; Richards MA; Rainey M; Murray LJ; Stansfeld AG. T lymphoblastic lymphoma with LEU-7 positive phenotype and unusual clinical course: a multiparameter study. Leukemia Research, 1985, 9(1):167-73.
- 51. Wahab ZA; Wright GL Jr. Monoclonal antibody (anti-Leu 7) directed against natural killer cells reacts with normal, benign and malignant prostate tissues. International Journal of Cancer, 1985, 36(6):677-83.
- 52. Abo T; Miller CA; Balch CM. Characterization of human granular lymphocyte subpopulations expressing HNK-1 (Leu-7) and Leu-11 antigens in the blood and lymphoid tissues from fetuses, neonates and adults. European Journal of Immunology, 1984, 14(7):616-23.
- 53. Balch CM; Tilden AB; Dougherty PA; Cloud GA; Abo T. Heterogeneity of natural killer lymphocyte abnormalities in colon cancer patients. Surgery, 1984, 95(1):63-70.
- 54. Caillaud JM; Benjelloun S; Bosq J; Braham K; Lipinski M. HNK-1-defined antigen detected in paraffin-embedded neuroectoderm tumors and those derived from cells of the amine precursor uptake and decarboxylation system. Cancer Research, 1984, 44(10):4432-9.
- 55. Ilyas AA; Quarles RH; Brady RO. The monoclonal antibody HNK-1 reacts with a human peripheral nerve ganglioside. Biochemical and Biophysical Research Communications, 1984, 122(3):1206-11.
- 56. Kruse J; Mailhammer R; Wernecke H; Faissner A; Sommer I; Goridis C; Schachner M. Neural cell adhesion molecules and myelin-associated glycoprotein share a common carbohydrate moiety recognized by monoclonal antibodies L2 and HNK-1. Nature, 1984, 311(5982):153-5.
- 57. Manara GC; de Panfilis G; Ferrari C; Bonati A; Scandroglio R. The fine structure of HNK-1 (Leu7) positive cells. A study using an immunoperoxidase technique. Histochemistry, 1984, 81(2):153-5.
- 58. Mangan KF; Hartnett ME; Matis SA; Winkelstein A; Abo T. Natural killer cells suppress human erythroid stem cell proliferation in vitro. Blood, 1984, 63(2):260-9.
- 59. Marolda R; Tilden AB; Abo T; Dougherty PA; Balch CM. Characterization of a subset of human natural killer cells that express OKM1 but lack HNK-1 (Leu-7) antigens. Scandinavian Journal of Immunology, 1984, 20(3):261-5.
- 60. Shioda Y; Nagura H; Tsutsumi Y; Shimamura K; Tamaoki N. Distribution of Leu 7 (HNK-1) antigen in human digestive organs: an immunohistochemical study with monoclonal antibody. Histochemical Journal, 1984, 16:843-54.
- 61. Swerdlow SH; Murray LJ. Natural killer (Leu 7+) cells in reactive lymphoid tissues and malignant lymphomas. American Journal of Clinical Pathology, 1984, 81(4):459-63.



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- 62. Tucker GC; Aoyama H; Lipinski M; Tursz T; Thiery JP. Identical reactivity of monoclonal antibodies HNK-1 and NC-1: conservation in vertebrates on cells derived from the neural primordium and on some leukocytes. Cell Differentiation, 1984, 14(3):223-30.
- 63. Bhan AK; DesMarais CL. Immunohistologic characterization of major histocompatibility antigens and inflammatory cellular infiltrate in human breast cancer. Journal of the National Cancer Institute, 1983, 71(3):507-16.
- 64. Lanier LL; Le AM; Phillips JH; Warner NL; Babcock GF. Subpopulations of human natural killer cells defined by expression of the Leu-7 (HNK-1) and Leu-11 (NK-15) antigens. Journal of Immunology, 1983, 131(4):1789-96.
- 65. Lipinski M; Braham K; Caillaud JM; Carlu C; Tursz T. HNK-1 antibody detects an antigen expressed on neuroectodermal cells. Journal of Experimental Medicine, 1983 1, 158(5):1775-80.
- 66. McGarry RC; Helfand SL; Quarles RH; Roder JC. Recognition of myelin-associated glycoprotein by the monoclonal antibody HNK-1. Nature, 1983, 306(5941):376-8.
- 67. Mori S; Mohri N; Morita H; Yamaguchi K; Shimamine T. The distribution of cells expressing a natural killer cell marker (HNK-1) in normal human lymphoid organs and malignant lymphomas. Virchows Archiv. B. Cell Pathology,1983,43:253-63
- 68. Ritchie AW; James K; Micklem HS. The distribution and possible significance of cells identified in human lymphoid tissue by the monoclonal antibody HNK-1. Clinical and Experimental Immunology, 1983, 51(3):439-47.
- 69. Schroder J; Nikinmaa B; Kavathas P; Herzenberg LA. Fluorescence-activated cell sorting of mouse-human hybrid cells aids in locating the gene for the Leu 7 (HNK-1) antigen to human chromosome 11. Proceedings of the National Academy of Sciences of the United States of America, 1983, 80(11):3421-4.
- 70. Schuller-Petrovic S; Gebhart W; Lassmann H; Rumpold H; Kraft D. A shared antigenic determinant between natural killer cells and nervous tissue. Nature, 1983 10-16, 306(5939):179-81.
- 71. Selby WS; Janossy G; Bofill M; Jewell DP. Lymphocyte subpopulations in the human small intestine. The findings in normal mucosa and in the mucosa of patients with adult coeliac disease. Clinical and Experimental Immunology, 1983, 52(1):219-28.
- 72. Abo T; Balch CM. Characterization of HNK-1+ (Leu-7) human lymphocytes. III. Interferon effects on spontaneous cytotoxicity and phenotypic expression of lymphocyte subpopulations delineated by the monoclonal HNK-1 antibody. Cellular Immunology, 1982, 73(2):376-84.
- 73. Abo T; Balch CM. Characterization of HNK-1+ (Leu-7) human lymphocytes. II. Distinguishing phenotypic and functional properties of natural killer cells from activated NK-like cells. Journal of Immunology, 1982, 129(4):1758-61.
- 74. Abo T; Cooper MD; Balch CM. Characterization of HNK-1+ (Leu-7) human lymphocytes. I. Two distinct phenotypes of human NK cells with different cytotoxic capability. Journal of Immunology, 1982, 129(4):1752-7.