

## MONOCLONAL ANTIBODY

CD94

Cat. No.	Form	Quantity	Presentation
1610	Purified	0.2 mg	Freeze-dried
2276	PE	100 tests	Liquid 2 mL

<b>Clone</b>	HP-3B1
<b>Isotype</b>	IgG2a $\kappa$ (mouse)
<b>Immunogen</b>	Cultured Human NK-cells
<b>Hybridoma</b>	P3X63/Ag.8.653 myeloma cell x Balb/c spleen cell
<b>Specificity</b>	<p>The antibody recognizes a disulfide -linked dimer of 43 kD subunits, which is termed Kp43 or CD94. The expression of CD94 molecule appears restricted to natural killer (NK) cells and to a T lymphocyte subpopulation (1, 2), including a subset of <math>\gamma/\delta^+</math> T-cells, and some <math>\alpha/\beta^+</math> CD8<sup>+</sup> CD56<sup>+</sup> T-cells, mainly V<math>\gamma</math>2 / V<math>\delta</math>2 (3)</p> <p>On NK cells the antigen structure apparently functions as a receptor for HLA-B7 on target cells. This interaction is inhibiting cytolytic activity of the NK cells and protects the cells carrying HLA-B7 (4).</p> <p>The HP-3B1 mAb was initially selected for its capacity to inhibit IL-2-dependent proliferation of NK-cells (1). Blocking the receptor on resting NK cells, triggers the Fc-dependent redirected lysis by these cells of HLA-B7 carrying target cells (4, 5).</p> <p>HP-3B1 has been assigned to the CD94 cluster of differentiation at the Vth International Workshop on Human Leukocyte Differentiation Antigens in Boston, MA (1993).</p>
<b>Applications</b>	<p>Flow cytometry</p> <p>Studies on the recognition mechanisms and function of NK cells.</p> <p>Immunohistochemical research studies in GVHD lesions (3) on cell smears, or frozen sections, but not on paraffin-embedded sections.</p>
<b>Buffer</b>	<p>Freeze-dried form: 1 mg/mL bovine serum albumin in phosphate-buffered saline.</p> <p>Liquid form: 2 mg/mL bovine serum albumin in phosphate-buffered saline containing 0.1% sodium azide.</p>
<b>Reconstitution and storage</b>	<p>The freeze-dried form may be stored at 2-8°C until the expiration date. Reconstitute with 1 mL of distilled water. No preservative has been added. The reconstituted form may be stored at -20°C until the expiration date. Aliquoting is suggested to avoid multiple freeze-thaw cycles. The addition of sodium azide at 0.1% (w/v) is recommended for storage of the reconstituted form for up to one month at 2-8°C.</p> <p>The conjugated forms should not be frozen and should be stored in the dark at 2 - 8°C until the expiration date stated on the vial label.</p>

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MA003

FOR RESEARCH USE ONLY - NOT FOR USE IN DIAGNOSTIC PROCEDURES


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**Recommended Procedures**

Fluorescent microscopy or flow cytometry:

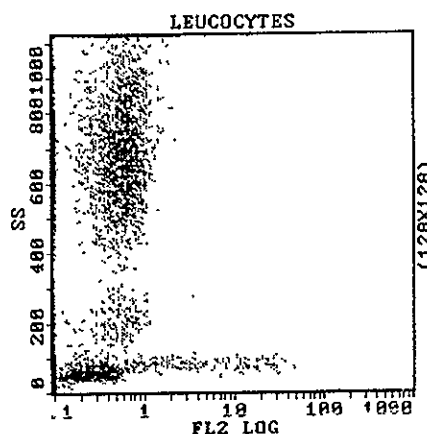
Freeze-dried form: 2  $\mu\text{g}$  /  $5 \times 10^5$  cells / test  
 Liquid form: 20  $\mu\text{L}$  /  $5 \times 10^5$  cells / test or 100  $\mu\text{L}$  whole blood

Immunohistochemistry:

Suggested form: freeze-dried  
 Working dilution: 1:20 to 1:100

This antibody is suitable only on frozen sections or cell smears.

**Example data**



This histogram illustrates the spatial separation of peripheral blood when immunostained with CD94 PE and analyzed by flow cytometry (using Lyse and Fix IOtest Cat. No. 0486).

**References**

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- 2) Aramburu, J., Balboa, M.A., Izquierdo, M., Lopez-Botet, M., "A novel functional cell surface dimer (Kp43) expressed by natural killer cells and T cell receptor- $\gamma/\delta^+$  T lymphocytes. II. Modulation of natural killer cytotoxicity by anti-Kp43 monoclonal antibody", 1991, *J. Immunol.*, **147**, 714-721.
- 3) Acevedo, A., Aramburu, J., Lopez, J., Fernandez-Herrera, J., Fernandez-Ranada, J.M., Lopez-Botet, M., "Identification of natural killer (NK) cells in lesions of human cutaneous graft-versus-host disease: Expression of a novel NK-associated surface antigen (Kp43) in mononuclear infiltrates", 1991, *J. Invest. Dermatol.*, **97**, 659-666.
- 4) Moretta, A., Vitale, M., Sivori, S., Bottino, C., Morelli, L., Augugliaro, R., "Human natural killer cell receptors for HLA-Class I molecules. Evidence that Kp43 (CD94) molecule functions as receptor for HLA-B alleles", 1994, *J. Exp. Med.*, **180**, 545-555.

- 5) Villar, J.J., Melero, I., Aramburu, J., Lopez-Botet, M., "Dual functional effects mediated by mAbs specific for an NK-cell-associated surface dimer (Kp43)"; 1995, in Leucocyte Typing V, Schlossman, S.F., et al., Eds., pp 1419-1421.
- 6) Balboa, M.A., Balsinde, J., Aramburu, J., Mollinedo, F., Lopez-Botet, M., "Phospholipase D activation in human natural killer cells through the Kp43 and CD16 surface antigens takes place by different mechanisms. Involvement of the phospholipase D pathway in tumor necrosis factor  $\alpha$  synthesis", 1992, J. Exp. Med., **176**, 9-17.
- 7) Rubio, G., Aramburu, J., Ontanon, J., Lopez-Botet, M., Aparicio, P., "A novel functional cell surface dimer (Kp43) serves as accessory molecule for the activation of a subset of human  $\gamma\delta$  T cells". 1993, J. Immunol., **151**, 1312-1321.
- 8) Aramburu, J., Balboa, M.A., Rodriguez, A., Melero, I., Alonso, M., Alonso, J.L., Lopez-Botet, M., "Stimulation of IL-2-activated natural killer cells through the Kp43 surface antigen up-regulates TNF- $\alpha$  production involving the LFA-1 integrin", 1993, J. Immunol., **151**, 3420-3429.