Monoclonal Mouse
Anti-Human CD11c, Protein 150,95
Clone KB90
Code No. M 0732
Lot 067. Edition 15.02.01

Antigen synonyms
Leucocyte adhesion receptor, p150,95, complement receptor 4 (CR4), αX subunit of αXβ2 integrin.

Introduction
The CD11c antigen is the 150 kDa α-chain of the p150,95 molecule mainly present on macrophages and hairy cells (1, 2). The protein belongs to a family of related heterodimeric proteins designated CD11 in the classification system for human leucocyte differentiation antigens. The CD11 family shares a common 95 kDa β-chain (CD18). In addition to the p150,95 protein, this protein family contains two other members, leucocyte function associated-1 (LFA-1, CD11a) antigen and iC3b receptor (CD11b) (3).

Each of the three distinctive CD11 α-chains are encoded by genes which cluster on the short arm of chromosome 16 between bands p11 and p13.1 whereas the β-chain gene is located on chromosome 21 at band q22 (4).

The three CD11 proteins belong to the integrin family of heterodimeric membrane glycoproteins expressed on diverse cell types and constituting a family of related membrane receptors in cell-cell and cell-matrix interactions.

Each of the three members of the CD11/CD18 family play a role in adhesion of leucocytes to vascular endothelium (5-8). However, the interaction between these molecules and other cell types is complex and may involve more than a single receptor (9).

An immune deficiency syndrome (leucocyte adhesion deficiency) involving susceptibility to recurrent bacterial infections has been reported (10). The syndrome is caused by defects in the CD18 gene leading to a diminished expression of all CD18-containing integrins.

Presentation
Monoclonal mouse antibody supplied in liquid form as tissue culture supernatant (RPMI 1640 medium containing fetal calf serum) dialysed against 0.05 mol/L Tris/HCl, pH 7.2 containing 15 mmol/L NaN3.

Mouse Ig concentration: 150 mg/L.

Isotype: IgG1, kappa.

Total protein concentration: 12.1 g/L.

Storage
2-8 °C.

Clone
KB90. (1).

Immunogen
Hairy cell leukaemia cells.

Specificity/reactivity
Anti-CD11c, KB90 is equivalent in specificity to antibodies like anti-Leu-M5 (2,11). It was included in the Fourth and the Fifth International Workshops and Conferences on Human Leucocyte Differentiation Antigens (Vienna 1989, Boston 1993), and studies by a number of laboratories confirmed its reactivity with the CD11c antigen (12).

Anti-CD11c, KB90, reacts with many tissue macrophages, including germinal centre macrophages and splenic red pulp macrophages (13,14). It also reacts with a small population of circulating lymphoid cells, with peripheral blood monocytes, with leukaemic cells from cases of hairy cell leukaemia, weakly with granulocytes, and with a minority of acute myeloid leukaemic cells (15-17).

An immune deficiency syndrome involving susceptibility to recurrent bacterial infections has been reported. The syndrome is associated with an absence of the CD11c molecule from patients' granulocytes (10).

The immunocytochemical reactivity of a panel of DAKO monoclonal antibodies with different categories of leukaemia and lymphoma is summarized in the table below (11, 18, 19).

<table>
<thead>
<tr>
<th>Disorder</th>
<th>CD22, 4KB128</th>
<th>CD5, DK23</th>
<th>DAKO Antibody HLA-DR, CR3/43</th>
<th>CD11c, KB90</th>
<th>CD25, ACT1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hairy cell leukaemia</td>
<td>++</td>
<td>-</td>
<td>+++</td>
<td>++</td>
<td>-</td>
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<tr>
<td>Chronic lymphocytic</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>-(+)</td>
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<td>leukaemia or a cex type</td>
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<td>Follicular centroblastic-</td>
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<td>-</td>
<td>+</td>
<td>-</td>
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<tr>
<td>centrocytic lymphoma</td>
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</tr>
<tr>
<td>Centrocytic lymphoma</td>
<td>+</td>
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<td>+</td>
<td>-</td>
<td>-(+)</td>
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<tr>
<td>Prolymphocytic leukaemia</td>
<td>+</td>
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<td>of b cell type</td>
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Staining procedures

Formalin-fixed and paraffin-embedded sections
Not suitable for labelling formalin-fixed, paraffin-embedded tissue.

Frozen sections and cell smears
Can be used on acetone-fixed frozen sections or fixed cell smears.
The antibody may be used at a dilution of 1:25-1:50 in the APAAP system when applied on fixed cell smears of normal human blood.
The antibody may be used at a dilution of 1:25-1:50 in the EnVision™+ system when applied on acetone-fixed frozen sections of normal human tonsil.
This is a guideline only; an optimal dilution should be determined by the individual laboratory.

Flow cytometry
The antibody is well-suited for flow cytometry (indirect technique) using DAKO Rabbit Anti-Mouse Immunoglobulins/FITC, code No. F 0313, or Rabbit Anti-Mouse Immunoglobulins/RPE, code No. R 0439, or Rabbit Anti-Mouse Immunoglobulins/RPE-Cy5, Code No. C 0090.

References