Monoclonal Mouse Anti-Human CD19, B Cell
Clone HD37
Code No. M 0740
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Introduction
The CD19 antigen is a 90 kDa glycoprotein present on B cells of different maturation. The CD19 gene has been cloned, and the gene product has been shown to be a transmembrane protein with at least two extracellular immunoglobulin-like domains. The intracytoplasmic domain bears some resemblance to two proteins encoded by Epstein-Barr virus and to the WNT1 oncogene (1).

The CD19 antigen appears early during B cell maturation, probably at the pro-B cell stage (2,3). It then persists throughout B cell maturation, and is still present in normal plasma cells while absent from myeloma cells (4). The antigen has a possible role in the regulation of B cell proliferation and differentiation (5-7).

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: 200 mg/L.
Isotype: IgG1, kappa.
Total protein concentration: 12.7 g/L.

Storage
2-8 °C.

Clone
HD37. (8).

Immunogen
Hairy cell leukaemia cells.

Specificity/reactivity
Anti-CD19, HD37, was found to belong to the CD19 cluster at the Second International Workshop and Conference on Human Leucocyte Differentiation Antigens (Boston 1984) (2), and was also included in the Third, Fourth and Fifth Workshops (9-11). The specificity of the antibody is essentially the same as that of the CD19 antibody B4 (12). In fact, cross-blocking studies indicate that all CD19 antibodies at the Second Workshop define a single epitope (13).

Anti-CD19, HD37, labels human B cells in peripheral blood, bone marrow and other tissues. It is unreactive with other cells in the human haematopoietic system and shows no reaction with non-haematopoietic cells, e.g. in kidney, liver, breast or lung tissues (14). The CD19 antigen is expressed on neoplastic cells in acute leukaemias of B cell origin and, less frequently, in acute monoblastic leukaemias (15,16).

Staining procedures
Formalin-fixed and paraffin-embedded sections
Not suitable for use on formalin-fixed, paraffin-embedded tissue sections.

Frozen sections and cell smears
Can be used to label acetone-fixed frozen tissue sections and fixed cell smears. The StreptABComplex/HRP Duet, Mouse/Rabbit (K 0492) technique or the alkaline phosphatase anti-alkaline phosphatase (APAAP) technique are recommended for visualization.

The antibody will also label B cells when tested in cell suspension using a conventional indirect immunofluorescence technique.

(2)
The antibody may be used at a dilution of 1:50-1:100 in the StreptABComplex/HRP Duet, Mouse/Rabbit (K 0492) technique when tested on acetone-fixed frozen sections of normal tonsil.

It may be used at a dilution of 1:50-1:100 when tested in the APAAP technique on fixed cell smears of normal tonsil.

These are guidelines only; optimal dilutions 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.

References


