MOUSE MONOCLONAL
ANTI-HUMAN MIC2 GENE PRODUCTS, EWING'S SARCOMA MARKER
(DAKO-MIC2, 12E7)
CODE NO. M3601
LOT NO. 090

For In Vitro Diagnostic Use

Synonym
p30/32mic2, CD99.

Immunogen
Acute lymphocytic leukemia T-cells.\(^1\)

Clone
12E7.\(^1\)

Presentation
DAKO-MIC2, 12E7 is a mouse monoclonal antibody supplied in liquid form as
tissue culture supernatant (containing fetal bovine serum) dialyzed against
0.05M Tris-HCl, pH 7.2 and 15mM sodium azide.

Total Protein Conc.: 9.1 mg/mL, excluding carrier protein (Refractometry)
Mouse Ig Concentration: 441 \(\mu\)g/mL (Single Radial Immunodiffusion)
Subclass: IgG\(1\), kappa.

Specificity
DAKO-MIC2, 12E7 recognizes the products of the MIC2 gene, a
pseudoautosomal gene located on the short arms of both the X and Y
chromosomes. The gene products are glycoproteins of similar molecular
weight designated p30 and p32.\(^2,4\) In red cells, the MIC2 gene is regulated by
the X-linked XG gene, resulting in a quantitative polymorphism for levels
of the MIC2 gene products.\(^5\)

The proteins encoded by the MIC2 gene are neuraminidase- and protease-
sensitive. DAKO-MIC2, 12E7 has been shown to have similar or identical
reactivity to monoclonal antibodies HBA-71 and RFB-1.\(^4,6\)

Reactivity
Normal cells
The MIC2 gene products are expressed on the cell membrane of some
lymphocytes (bone marrow, lymph nodes and spleen), cortical thymocytes,
granulosa cells of the ovary, most Langerhans' islet cells, CNS ependymal
cells, Sertoli's cells of the testis and in a few cases, endothelial cells of single
blood vessels.\(^6\)

Tumor cells
A study of 70 different tumors has shown that among neoplastic tissues, only
glioblastoma and ependymoma of the CNS and certain islet cell tumors of the
pancreas reacted positively.\(^6\) Because the MIC2 gene products are most
strongly expressed on the cell membrane of Ewing's Sarcoma (ES) and
primitive peripheral neuroectodermal tumors (pPNET), demonstration of the
gene products allows for the differentiation of these tumors from other round
cell tumors of childhood and adolescence.\(^4,6,9\)
Staining Procedure

**Paraffin Sections**
DAKO-MIC2, 12E7 can be used on formalin-fixed, paraffin-embedded tissue sections. Pretreatment with proteolytic enzymes is not recommended as it may reduce the staining intensity.

A variety of staining techniques is suitable, including avidin-biotin methods, the three-stage immunoperoxidase procedure, the APAAP (alkaline phosphatase anti-alkaline phosphatase) and PAP (peroxidase anti-peroxidase) techniques.

DAKO-MIC2, 12E7 may be used at a dilution of 1:50 – 1:75 in the LSAB method determined on formalin-fixed, paraffin-embedded tissue. These are guidelines only; optimal dilutions should be determined by the individual laboratory.

**Cryostat Sections and Cell Smears**
DAKO-MIC2, 12E7 can also be used to label cryostat sections or cell smears.

**Storage**
Store at 2-8°C or below 0°C. Avoid repeated freeze-thaw.

**References**

2. Herron R and Smith GA. Identification and immunochemical characterization of the human erythrocyte membrane glycoproteins that carry the Xg\(^a\) antigen. Biochem J 1989; 262:369
5. Goodfellow PN and Tippett P. A human quantitative polymorphism related to the Xg blood groups. Nature 1981; 289:404