Monoclonal Mouse Anti-Human p21\textsuperscript{WAF1/Cip1}
Clone SX118
Code No. M 7202
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Introduction
p21 is a protein encoded by the \textit{WAF1/Cip1} gene on chromosome 6p. p21\textsuperscript{WAF1/Cip1} has been shown to inhibit the activity of several cyclin/cyclin-dependent kinase complexes and to block cell cycle progression (1). It was identified as a gene whose product was transcriptionally activated by wild-type but not mutant p53 protein, serving as a mediator of the cell cycle arrest function of p53 (2). In tumour cells that have lost the p53 protein or contain an altered form of p53, p21 levels are dramatically reduced or totally absent (2). This could lead to the passing of the G1 checkpoint, permitting the progression of the cell cycle in the presence of DNA alterations and in this way may result in genomic instability and oncogenesis. Because p21 appears to mediate several of the growth-regulatory functions of p53, its expression would be predicted to reflect the functional status of p53 more precisely than p53 accumulation. The p21\textsuperscript{WAF1/Cip1} protein can also be induced in a p53-independent manner and has been shown to play a role in differentiation (3). Furthermore, p21\textsuperscript{WAF1/Cip1} can inhibit DNA replication by blocking the action of proliferating cell nuclear antigen (PCNA) (4). The expression of p21\textsuperscript{WAF1/Cip1} has been studied by immunohistochemistry in a wide range of human tumours including melanomas (5), pancreatic carcinomas (6), cervical carcinomas (7), thymomas (8), thyroid carcinomas (9), breast carcinomas (10), head-and-neck carcinomas (11), colon carcinomas (12) and Hodgkin's disease (13).

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 NaNO\textsubscript{3}.

Mouse Ig concentration: 390 mg/L.

Isotype: IgG1, kappa.

Total protein concentration: 11.1 g/L.

Storage
2 - 8 °C.

Clone
SX118. (14).

Immunogen
Purified glutathione S-transferase (GST)-p21\textsuperscript{WAF1/Cip1} fusion protein.

Specificity/reactivity
The antibody reacts with a 21 kDa protein in immunoblotting of MCF-7 cells and immunoprecipitates a 21 kDa band from lysates from SAOS-2 cells transfected with the full length p21\textsuperscript{WAF1/Cip1} protein (14). The antibody also reacts with p21 from mouse.

Application
The antibody can be used in immunohistochemistry. Furthermore, the antibody produced by the clone SX118 has been shown to be applicable for immunoblotting and immunoprecipitation (14).

Staining procedures
Formalin-fixed and paraffin-embedded sections
Can be used on formalin-fixed, paraffin-embedded tissue sections. Antigen retrieval, such as by heating in 10 mmol/L citrate buffer, pH 6.0, or in DAKO Target Retrieval Solution, code No. S 1700, is mandatory. The slides should not be allowed to dry out during this treatment or during the following immunohistochemical staining procedure.
For tissue sections sensitive staining techniques are recommended, such as the LSAB®+ or the EnVision™+ systems.

The antibody may be used at a dilution of 1:25 - 1:50 with the LSAB®+ system when tested on formalin-fixed, paraffin-embedded sections of human tonsil.

Frozen sections and cell smears

Can be used for labelling acetone-fixed cryostat sections or for fixed cell smears. For staining cell smears, the APAAP method is recommended.

The antibody may be used at a dilution at 1:25 - 1:50 in the APAAP technique, when tested on acetone-fixed cryostat sections of human tonsil.

These are guidelines only; optimal dilutions should be determined by the individual laboratory.

Automation: The antibody can be used on automated immunostaining systems.

References


