

## Product Information

### Monoclonal Anti-Cytokeratin, pan-FITC clone C-11

produced in mouse, purified immunoglobulin

Catalog Number **F3418**

#### Product Description

Monoclonal Anti-Cytokeratin, pan (mouse IgG1 isotype) is derived from the C-11 hybridoma produced by the fusion of mouse myeloma cells and splenocytes from immunized BALB/c mice. A keratin-enriched preparation from cultured human epidermoid carcinoma cell line A431 was used as the immunogen. The isotype is determined by a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents, Catalog Number ISO2. Protein A purified immunoglobulin from mouse ascites fluid is conjugated to FITC (isomer I) and then purified by gel filtration to remove free FITC.

Monoclonal Anti-Cytokeratin, pan-FITC, clone C-11, recognizes human cytokeratins 4,5,6,8,10,13, and 18 in immunoblotting.<sup>1,2,3</sup> The C-11 antibody is a broad spectrum antibody which reacts specifically with a wide variety of normal, reactive and neoplastic epithelial tissues. The antibody reacts with simple, cornifying and non-cornifying squamous epithelia and pseudostratified epithelia. It does not react with non-epithelial normal human tissues.<sup>4</sup> This antibody can be applied to methanol- or acetone-fixed frozen sections, and to formalin-fixed, paraffin-embedded human tissues.<sup>5</sup> Increased staining intensity is seen following proteolytic treatment of tested tissue (protease 'unmasking').<sup>1,2</sup> Similarly embedded methacarn-fixed material is also suitable for cytokeratin demonstration. It exhibits a wide interspecies cross-reactivity down to *xenopus laevis* (e.g., human, bovine, rat, and frog).

Monoclonal Anti-Cytokeratin, pan-FITC may be used for the localization of cytokeratins using various immunochemical assays including direct immunofluorescence using frozen or fixed tissue sections or cultured cells. It may also be used in flow cytometry of normal and neoplastic epithelial cells. Intermediate-sized filaments are abundant cytoplasmic structural proteins in most vertebrate cells.

Cytokeratins, a group comprising at least 29 different proteins are characteristic of epithelial and trichocytic cells.<sup>5</sup> Cytokeratins 4,5,6 and 8 are members of the type II neutral-to-basic subfamily. Cytokeratin peptide 4 (59 kDa) is the secondary type II keratin expressed in non-cornified stratified squamous epithelia. Cytokeratin peptide 5 (58 kDa) is the primary type II keratin in stratified epithelia, while cytokeratin type 8 (52 kDa) is a major type II keratin in simple epithelia. Cytokeratin 6 (56 kDa) is a 'hyperproliferation' cytokeratin expressed in tissues with natural or pathological high turnover. Cytokeratins 10, 13, and 18 are members of the type I acidic subfamily. Cytokeratin peptide 10 (56 kDa) is the secondary type I keratin expressed in cornified epithelia. Cytokeratin 13 (54 kDa) is the secondary type I keratin expressed in non-cornified stratified squamous epithelia. Cytokeratin 18 (45 kDa) is the primary type I keratin expressed in simple epithelial cells. Monoclonal anti-cytokeratins are specific markers of epithelial cell differentiation and have been widely used as tools in tumor identification and classification. Monoclonal Anti-Cytokeratin, pan is a broadly reactive group type antibody that recognizes an epitope present in most human epithelial tissues. It facilitates typing of normal, metaplastic and neoplastic cells. It may aid in the discrimination of carcinomas and non epithelial tumors such as sarcomas, lymphomas and neural tumors. It is also useful in detecting micrometastases in lymph nodes, bone marrow<sup>4</sup> and other tissues and for determining the origin of poorly differentiated tumors.<sup>5,6</sup>

#### Reagent

Supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 1% BSA and 15 mM sodium azide as a preservative.

#### Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

**Storage/Stability**

For continuous use, store at 2-8 °C for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing, or storage in "frost-free" freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use.

**Product Profile**

Direct immunofluorescence: a minimum antibody titer of 1:50 is determined by staining of intermediate filaments in cultured PtK<sub>2</sub> cells.

Immunohistology: a minimum antibody titer of 1:50 is determined using human placenta formalin fixed paraffin embedded section.

**Note:** In order to obtain best results, it is recommended that each user determine the optimal working dilution for individual applications by titration assay.

**References**

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2. Bartkova, J., et al., *Neoplasma*, **38**, 439 (1991).
3. Kasper, M., *Histochemistry*, **95**, 613 (1991).
4. Kovarik, J., et al., *Int. J. Cancer*, Suppl. 3, 50 (1988).
5. Lane, E., and Alexander, C., *Sem. Canc. Biol.*, **1**, 165 (1990).
6. Moll, R., et al, *Cell*, **31**, 11 (1982).

AI,PHC 03/15-1