

## Product Information

**Anti-Cytokeratin pan antibody, Mouse monoclonal**  
clone C-11, purified from hybridoma cell culture

Catalog Number **P2871**

### Product Description

Anti-Cytokeratin pan antibody (mouse IgG1 isotype) is derived from the C-11 hybridoma produced by the fusion of mouse myeloma cells and splenocytes from BALB/c mice immunized with a keratin-enriched preparation from cultured human epidermoid carcinoma cell line A431.<sup>1</sup> The isotype is determined by a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents (Catalog Number ISO2).

Anti-Cytokeratin pan antibody, mouse monoclonal clone C-11, recognizes human cytokeratins 4, 5, 6, 8, 10, 13, and 18 in immunoblotting.<sup>1-3</sup> It 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 formalin-fixed tissue.<sup>1,2</sup> Similarly, methacarn-fixed material is also suitable for cytokeratin demonstration. Monoclonal Anti-Cytokeratin, pan, exhibits a wide interspecies cross-reactivity, e.g., human,<sup>7-10</sup> bovine, rat,<sup>8</sup> mouse,<sup>9</sup> and frog. It is also useful for staining of cultured epithelial cell lines.

Anti-Cytokeratin pan antibody, mouse monoclonal may be used for the localization of cytokeratins using various immunochemical assays such as immunoblotting, dot blotting, immunohistochemistry,<sup>8-9</sup> and immunocytochemistry<sup>7-10</sup> (immunofluorescence and immunoenzymatic staining).

Intermediate-sized filaments are abundant cytoplasmic structural proteins in most vertebrate cells.

Cytokeratins, a group of 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.

Anti-Cytokeratins pan antibody, mouse monoclonal are specific markers of epithelial cell differentiation and have been widely used as tools in tumor identification and classification.

Anti-Cytokeratins pan antibody, mouse monoclonal, is a broad-spectrum antibody, which recognizes an epitope present in most human epithelial tissues. The antibody 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. The antibody can also be used in detecting micrometastases in lymph nodes, bone marrow, and other tissues,<sup>4</sup> 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 15 mM sodium azide.

Antibody Concentration: ~2 mg/ml

### Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses.

### 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. Working dilution samples should be discarded if not used within 12 hours.

### Product Profile

Immunocytochemistry: a minimum working concentration of 15-30 µg/ml is recommended using methanol/acetone fixed PTK-2 cells or A549 - human lung carcinoma cells.

Immunohistochemistry: a minimum working concentration of 15-30 µg/ml is recommended using formalin-fixed, paraffin-embedded sections of human skin.

Note: In order to obtain the best results in various techniques and preparations, it is recommended to determine optimal working concentrations by titration.

### References

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TT,DS,KAA,PHC,MAM 2/20-1