

**Product No. C 6930**  
**Lot 096H4807**

**Monoclonal Anti-Cytokeratin Peptide 19**  
Culture Supernatant  
Clone A53-B/A2

Monoclonal Anti-Cytokeratin Peptide 19 (mouse IgG2a isotype) is derived from the A53-B/A2 hybridoma produced by the fusion of mouse myeloma cells and splenocytes from BALB/c mice immunized with mammary human carcinoma cell line MCF-7.<sup>1</sup> The isotype is determined using Sigma ImmunoType™ Kit (Sigma Stock No. ISO-1) and by a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents (Sigma Stock No. ISO-2). The product is provided as culture supernatant with 0.1% sodium azide (see MSDS)\* as a preservative.

### Specificity

Monoclonal Anti-Cytokeratin Peptide 19, known as clone A53-B/A2,<sup>1</sup> or clone No. Ks 19.1,<sup>2</sup> reacts with the rod domain of human cytokeratin peptide 19 (40 kD), a cytoskeletal protein restricted to epithelial and carcinoma cells.<sup>1,3</sup> The product may be used to label cytokeratin in formalin-fixed or Carnoy-fixed, paraffin-embedded tissue.<sup>2</sup> It can also be used on frozen sections of human tissue.<sup>4</sup> Inter-species cross-reactivity is low (guinea-pig, mouse, rat) or absent. The antibody labels simple epithelia and basal cells of non-cornifying stratified squamous epithelia.<sup>4</sup> It is a useful tool in discriminating carcinomas from tumors of different origin and for carcinoma subtyping using immunoblotting or immunocytochemical techniques. The antibody has also been shown to be a marker of premalignant lesions of the oral epithelium.<sup>5</sup> It stains permeabilized MCF-7 cells that have been shown to contain cytokeratin 19, but does not stain cell lines A-431 and HeLa, which are lacking cytokeratin 19.

### Description

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. Cytokeratin 19 is a member of the type I acidic subfamily. It is a 40 kD polypeptide differentially expressed in various human tissues. Cytokeratin 19 can be detected

by biochemical or immunohistochemical means in simple epithelia and basal cells of non-cornifying stratified squamous epithelia. Neoplastic cells usually retain the intermediate filament pattern of their cell of origin. Monoclonal anti-cytokeratins are specific markers of epithelial cell differentiation and have been widely used as tools in tumor identification and classification.

### Uses

Monoclonal Anti-Cytokeratin Peptide 19 may be used for the localization of cytokeratin 19 using various immunochemical assays such as immunoblotting, dot blotting and immunohistochemistry (immunofluorescence and immunoenzymatic staining).

**Titer:** 1:50

The antibody titer was determined by indirect immunofluorescent staining of formalin-fixed, paraffin-embedded sections of human tissue.

In order to obtain best results in different techniques and preparations, it is recommended that each individual user determine their optimal working dilution by titration assay.

### Storage

For continuous use, store at 2-8°C. For extended storage, the solution may be frozen in working aliquots. Repeated freezing and thawing is **not** recommended. Storage in "frost-free" freezers is **not** recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use.

\* Due to the sodium azide content a material safety data sheet (MSDS) for this product has been sent to the attention of the safety officer of your institution. Consult the MSDS for information regarding hazardous and safe handling practices.

## References

1. Karsten, U., et al., *Eur. J. Canc. Clin. Oncol.*, **21**, 733 (1985).
2. Moll, R., et al., *Lab. Invest.* **65**, 74 (1991).
3. Lane, E., and Alexander, C., *Semin. Cancer Biol.*, **1**, 165 (1990).
4. Kasper, M., et al., *Eur. J. Canc. Clin. Oncol.*, **23**, 137 (1987).
5. Lindberg, K., and Rheinwald, J., *Amer. J. Pathol.*, **134**, 89 (1989).

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