

**Monoclonal
Antibodies
Detecting
Human
Antigens**



Anti-Cytokeratin (CAM 5.2)

FITC	Catalog No. 347653	100 Tests	
PE	Catalog No. 347204	50 Tests	
Pure	Catalog No. 349205	50 Tests	For In Vitro Diagnostic Use.

Product description and instructions for use are found in a separate package insert.

DESCRIPTION

Specificity

Anti-Cytokeratin (CAM 5.2) reagent has a primary reactivity with human keratin proteins that correspond to Moll's peptides #7 and #8, Mr 48 and 52 kilodaltons (kd), respectively.¹⁻⁴

NOTE: Previous revisions of this data sheet claimed reactivity with Moll's peptides #8 and #18. The application of more definitive technology² clarifies and corrects previous specificity claims.

Antigen Distribution

Cytokeratin 7 and 8 are present on secretory epithelia of normal human tissue but not on stratified squamous epithelium.¹ Anti-Cytokeratin (CAM 5.2) stains most epithelial-derived tissue, including liver, renal tubular epithelium, and hepatocellular and renal cell carcinomas. Anti-Cytokeratin (CAM 5.2) might not react with some squamous cell carcinomas.^{3,5,6}

Clone

Anti-Cytokeratin, clone CAM 5.2, is derived from hybridization of mouse P3/NS-1/1-Ag4-1 myeloma cells with spleen cells from BALB/c mice immunized with the human colorectal carcinoma cell line HT29.

Ig Chain Composition

Anti-Cytokeratin (CAM 5.2) is composed of mouse IgG_{2a} heavy chains and kappa light chains.

RESEARCH APPLICATIONS

- studies of human keratin proteins^{1,3,4}

CLINICAL APPLICATIONS

- immunohistochemical staining of frozen-sectioned or formalin-fixed, paraffin-embedded human tissue
- distinguishing undifferentiated carcinoma from malignancies of nonepithelial origin such as lymphomas, melanomas, and sarcomas⁷

DIRECT IMMUNOFLUORESCENCE

Product/Amount for Staining

Anti-Cytokeratin (CAM 5.2) FITC	Anti-Cytokeratin (CAM 5.2) PE*
Cat. No. 347653	Cat. No. 347204
20 µL/test	20 µL/test

Method for Direct Immunofluorescence

Add 50 µL of cell sample to labeled 12 x 75-mm tubes. Add 2 mL of 1X FACS™ Lysing Solution† (Catalog No. 349202). Vortex gently and incubate for 10 minutes at room temperature. Centrifuge at 1,200 rpm for 5 minutes. Aspirate the supernatant. Add 500 µL of 1X FACS Permeabilizing Solution (Catalog No. 340457). Vortex and incubate for 10 minutes at room temperature in the dark. Add 3 mL of wash buffer (1X phosphate-buffered saline (PBS), 0.5% bovine serum albumin (BSA), and 0.1% NaN₃), vortex, centrifuge for 5 minutes, and aspirate the supernatant. Add 20 µL of fluorescent-conjugated Anti-Cytokeratin antibodies. Vortex and incubate for 30 minutes at room temperature in the dark. Repeat wash step with 1 mL of wash buffer. Add 500 µL of 1% paraformaldehyde and vortex. Store cell for at least 30 minutes at room temperature before analyzing on a flow cytometer.

NOTE For detailed information on preparation and analysis of tissue samples, refer to the *Anti-Cytokeratin (CAM 5.2) Reagent* package insert.

* US Patent No. 4,520,110; European Patent No. 76,695; and Canadian Patent No. 1,179,942

† US Patent Nos. 4,654,312; 4,902,613; and 5,098,849

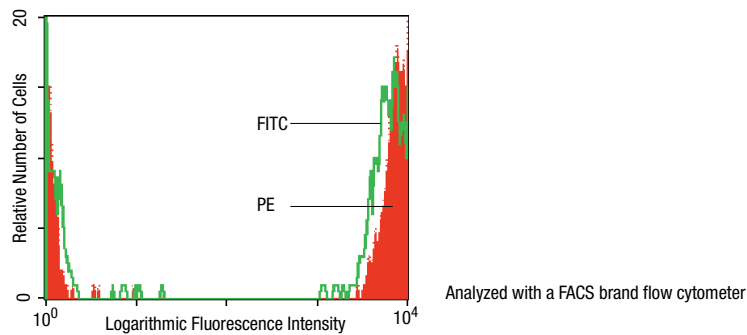
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Representative Data

Performed on whole blood containing SK-BR-3 cells. Laser excitation is at 488 nm.



HANDLING AND STORAGE

The monoclonal antibody is supplied as 50 µg purified immunoglobulin in 2.0 mL (25 µg/mL) of PBS. The FITC conjugate is supplied as 50 µg in 2.0 mL (25 µg/mL) of PBS. The PE conjugate is supplied as 6.25 µg in 1.0 mL (6.25 µg/mL) of PBS. Buffered saline contains gelatin and 0.1% sodium azide. The vials should be stored at 2° to 8°C. Conjugated forms should not be frozen and should be protected from prolonged exposure to light. Each reagent is stable for the period shown on the bottle label when stored as directed.

WARRANTY

The product sold hereunder is warranted only to conform to the quantity and contents stated on the label at the time of delivery to the customer. There are no warranties, expressed or implied, that extend beyond the description on the label of the product. BD's sole liability is limited to either replacement of the products or refund of the purchase price. BD is not liable for property damage, personal injury, or economic loss caused by the product.

CHARACTERIZATION

To ensure consistently high-quality reagents, each lot of monoclonal antibody is tested for conformance with characteristics of a standard reagent. Representative flow cytometric data are included in this data sheet.

WARNING

Reagents contain sodium azide. Sodium azide is harmful if swallowed. Keep out of reach of children. Keep away from food, drink, and animal feedings. Wear suitable protective clothing. If swallowed, seek medical advice immediately and show this container or label. Contact with acids liberates very toxic gas. Azide compounds should be flushed with large volumes of water during disposal to avoid deposits in lead or copper plumbing where explosive conditions can develop.

REFERENCES

1. Moll R, Franke W, Schiller D, Geiger B, Krepler R. The catalog of human cytokeratins: patterns of expression in normal epithelia, tumors, and cultured cells. *Cell*. 1982;31:11-24.
2. Smedts F, Ramaekers F, Robben H, et al. Changing patterns of keratin expression during progression of cervical intraepithelial neoplasia. *Am J Pathol*. 1990;136(3):657-667.
3. Makin C, Bobrow L, Bodmer W. Monoclonal antibody to cytokeratin for use in routine histopathology. *J Clin Pathol*. 1984;37:975.
4. Cooper D, Schermer A, Sun T-T. Biology of disease classification of human epithelia and their neoplasms using monoclonal antibodies to keratins: strategies, applications and limitations. *Lab Invest*. 1985;52:243-256.
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7. Leader M, Patel J, Makin C, Henry K. An analysis of the sensitivity and specificity of the cytokeratin marker CAM 5.2 for epithelial tumors: results of a study of 203 sarcomas, 50 carcinomas, and 28 malignant melanomas. *Histopathol*. 1986;10:1315-1324.