3050 Spruce Street, St. Louis, MO 63103 USA
Tel: (800) 521-8956 (314) 771-5765 Fax: (800) 325-5052 (314) 771-5757
email: techservice@sial.com sigma-aldrich.com

Product Information

Monoclonal Anti-Cytokeratin, pan (mixture)
Clones C-11, PCK-26, CY-90, KS-1A3, M20, A53-B/A2
produced in mouse, ascites fluid

Catalog Number **C2562**

Product Description

Monoclonal Anti-Cytokeratin, pan (mouse IgG1 and IgG2a isotypes) is a mixture of monoclonal antibodies from the following clones: C-11, PCK-26, CY-90, KS-1A3, M20, and A53-B/A2.

Monoclonal Anti-Cytokeratin, pan (mixture) recognizes human cytokeratins 1, 4, 5, 6, 8, 10, 13, 18, and 19 in immunoblotting. It is a broad spectrum reagent which reacts specifically with a wide variety of normal, reactive and neoplastic epithelial tissues. The antibody mixture reacts with simple, cornifying and non-cornifying squamous epithelia and pseudo-stratified epithelia. It does not react with non-epithelial normal human tissues. This mixture can be applied to methanol or acetone-fixed frozen sections, and to formalin-fixed or methacarn-fixed, paraffin-embedded human tissues. Increased staining intensity is seen following proteolytic treatment of tested tissue. The Anti-Cytokeratin, pan (mixture) exhibits a wide interspecies cross-reactivity down to *Xenopus laevis*.

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.[1,2] Cytokeratins 1, 4, 5, 6, and 8 are members of the type II neutral-to-basic subfamily. Cytokeratin peptide 1 (68 kDa) is a secondary type II keratin expressed in cornified epithelia. 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 the primary 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. Cytokeratin peptide 19 (40 kDa) is a type I keratin which can be expressed in both simple and in broad cells of stratifying epithelia at specific sites.

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 (mixture) is a broadly reactive reagent, which recognizes epitopes present in most human epithelial tissues. It facilitates typing of normal, metaplastic and neoplastic cells. Synergy between the various components results in staining amplification. This enables identification of cells, which would otherwise be stained only marginally. The mixture may aid in the discrimination of carcinomas and non-epithelial tumors such as sarcomas, lymphomas and neural tumors. It is also useful in detecting micro-metastases in lymph nodes, bone marrow and other tissues and for determining the origin of poorly differentiated tumors.[1,2]

Monoclonal Anti-Cytokeratin, pan (mixture) may be used for the localization of cytokeratins using various immunochemical assays such as immunoblotting, dot blotting, and immunohistochemistry (fluorescent and enzymatic staining). It is also useful for staining of cultured epithelial cell lines.

Reagent

Provided as mouse ascites fluid containing 7% horse serum with 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.

Product Profile
A minimum working dilution of 1:100 is determined by indirect immunofluorescent staining of protease digested, formalin-fixed, paraffin-embedded sections of human or animal tissues.

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

Storage
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.

References

1. Lane, E., and Alexander, C., *Sem. Canc. Biol.*, **1**, 165 (1990).
2. Moll, R., et al., *Cell,* **31**, 11 (1982).

MG,KAA,PHC 09/11-1

©2011 Sigma-Aldrich Co. LLC. All rights reserved. SIGMA-ALDRICH is a trademark of Sigma-Aldrich Co. LLC, registered in the US and other countries. Sigma brand products are sold through Sigma-Aldrich, Inc. Purchaser must determine the suitability of the product(s) for their particular use. Additional terms and conditions may apply. Please see product information on the Sigma-Aldrich website at www.sigmaaldrich.com and/or on the reverse side of the invoice or packing slip.