WHITEPAPER

Meet the Marker:
Pan Cytokeratin [AE1/AE3]

BIOCARE MEDICAL

Meet the Marker: Pan Cytokeratin [AE1/AE3]

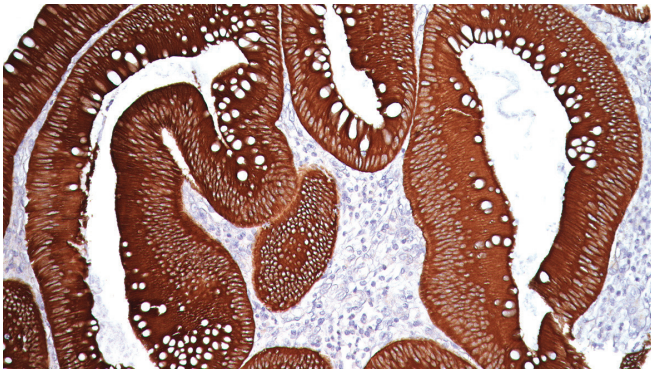
Pan Cytokeratin [AE1/AE3] is a cocktail of the two monoclonal antibodies AE1 and AE3, which recognize most human cytokeratins.[4] This makes it a marker for epithelial cells, which are the cells that line the surfaces of organs and tissues in the body, including the breast, lungs, prostate, colon, and others.[1]

Pan Cytokeratin [AE1/AE3] stains positively for all epithelial cells, including normal and malignant cells, which makes it valuable for identifying the presence and extent of epithelial malignancies, particularly carcinomas, a type of malignant tumor that arises from epithelial cells.[1] Carcinomas are the most common type of cancer, accounting for 80-90% of all cancer cases.[2] Pan Cytokeratin [AE1/AE3] can also be used to help track down the origin of a metastatic carcinoma if the origin is unknown.[3]

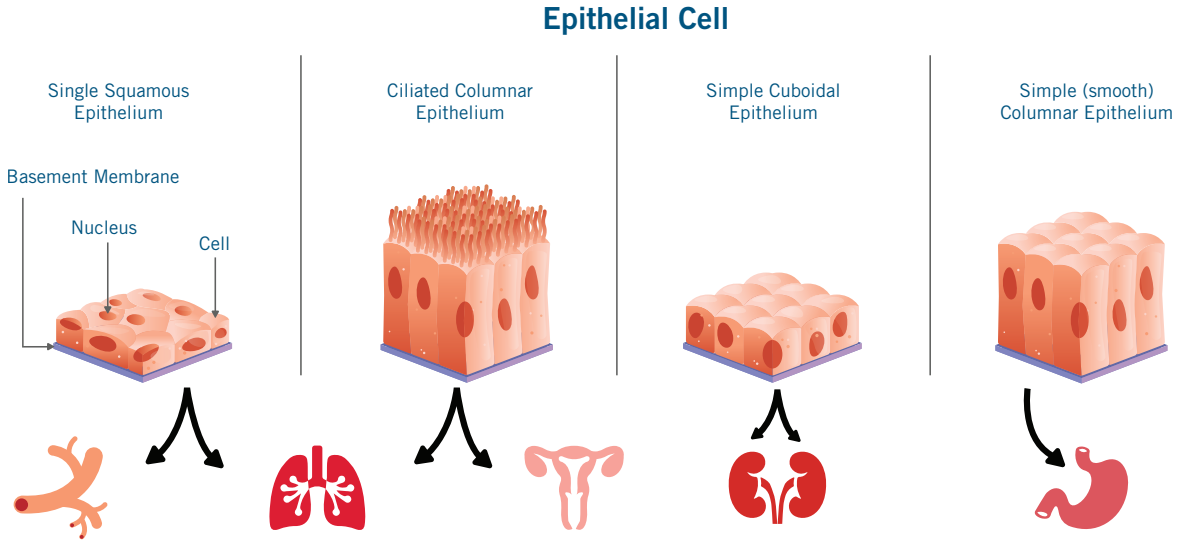
As an epithelial marker, Pan Cytokeratin [AE1/AE3] can aid in the diagnosis of disease states such as breast cancer, lung cancer, prostate cancer, or colorectal cancer, and is often used in combination with other antibodies for these specific cancers.[1]

For example, Pan Cytokeratin [AE1/AE3] may be used in combination with antibodies such as Estrogen Receptor (ER) or Progesterone Receptor (PR) to diagnose breast cancer.[1,3] In lung cancer, Pan Cytokeratin [AE1/AE3] can be used in combination with antibodies against TTF-1 and p40 or p63 to distinguish between adenocarcinoma and squamous cell carcinoma.[1]

Pan Cytokeratin Stains & Illustrations



Colon cancer stained with Pan Cytokeratin [AE1/AE3] antibody



To learn more about Biocare Medical's product offerings for Pan Cytokeratin [AE1/AE3], please visit our website at www.biocare.net or call our Technical Support line for more information at 1-800-799-9499, Option 3.

1. Chu, P. G., & Weiss, L. M. (2002). Keratin expression in human tissues and neoplasms. Histopathology, 40(5), 403-439. https://doi.org/10.1046/j.1365-2559.2002.01387.x
2. Ferlay, J., Soerjomataram, I., Dikshit, R., Eser, S., Mathers, C., Rebelo, M., Parkin, D. M., Forman, D., & Bray, F. (2015). Cancer incidence and mortality worldwide: sources, methods and major patterns in GLOBOCAN 2012. International journal of cancer, 136(5), E359-E386. https://doi.org/10.1002/ijc.29210
3. Rajković, N., Li, X., Plataniotis, K. N., Kanjer, K., Radulovic, M., & Milošević, N. T. (2018). The Pan-Cytokeratin Staining Intensity and Fractal Computational Analysis of Breast Tumor Malignant Growth Patterns Prognosticate the Occurrence of Distant Metastasis. Frontiers in oncology, 8, 348. https://doi.org/10.3389/fonc.2018.00348
4. Sorenson, S. C., Asch, B. B., Connolly, J. L., Burstein, N. A., & Asch, H. L. (1987). Structural distinctions among human breast epithelial cells revealed by the monclonal antikeratin antibodies AE1 and AE3. The Journal of pathology, 153(2), 151–162. https://doi.org/10.1002/path.1711530208