WHITEPAPER

The Benefits of Using Tissue Microarrays (TMAs) In Your Lab

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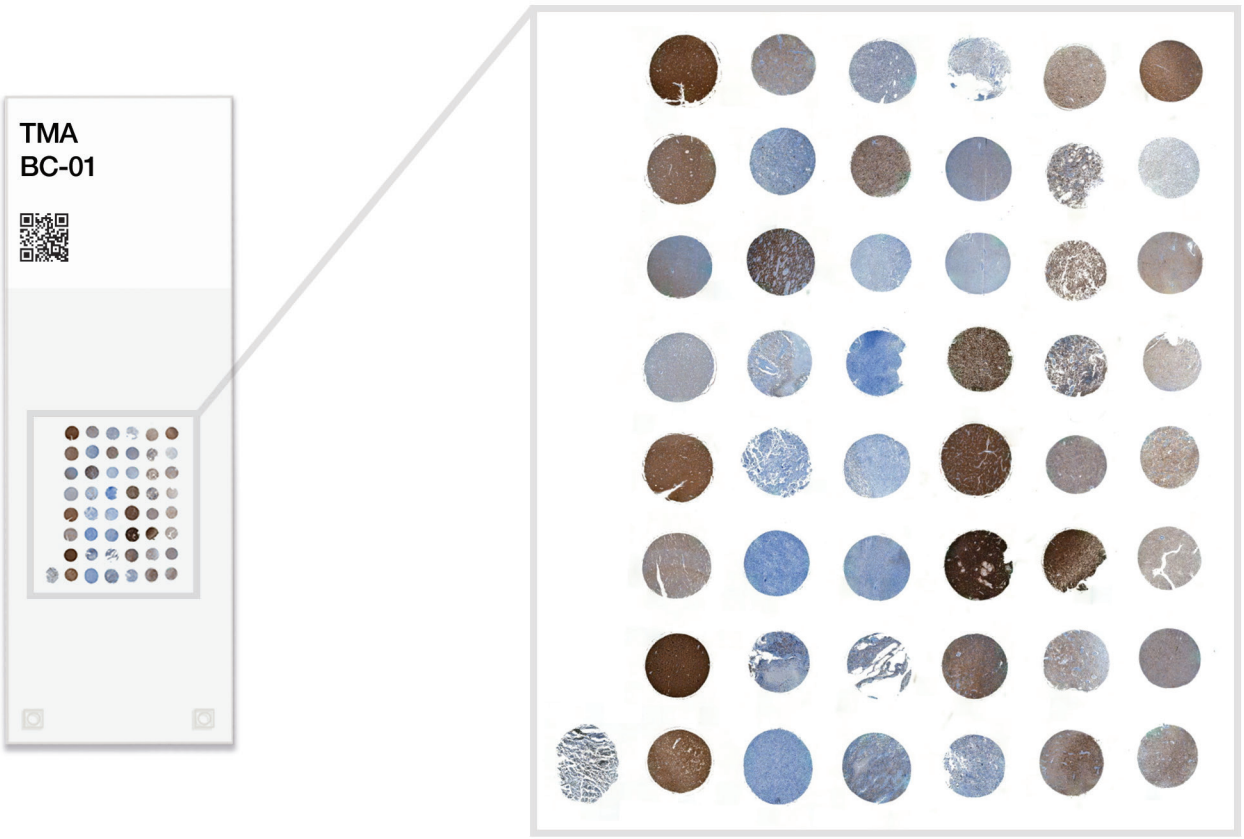
Tissue microarrays (TMAs) are paraffin blocks that include multiple samples from different tissue types meant to provide a comprehensive multiplex staining profile. The sections from TMA blocks can be used for all types of tissue staining techniques, including immunohistochemistry and *in situ* hybridization.

In order to create a TMA block, cylindrical tissue samples are collected from a set of individual donor tissue blocks and then embedded in an empty 'recipient' paraffin block in an array formation. This allows labs to optimize IHC and ISH procedures in a few ways.



Since TMAs allow for multiple samples to be placed on a single slide, the number of slides needed for any comparison analysis is greatly reduced. This translates directly into savings on the volume of reagents, slides, and other staining materials required. Using TMAs can also greatly improve staining efficiency, as having even two samples on one slide will halve the time needed for staining. As a result, optimization and validation protocols can be accelerated as TMAs generate a higher volume of results and also allow for simultaneous analysis.

Beyond their advantages in efficiency, TMAs can be a valuable tool for quality control. Since multiple tissue samples are affixed to a single slide, the potential for variability that can arise when comparing separate slides is removed. TMAs also allow control tissue to be placed alongside each patient slide core, allowing instant and accurate reference.

With the investment of targeted training, some equipment and tools, any histologist can incorporate TMAs into their laboratory practices to increase productivity and optimize results.

Still curious about Biocare Medical's Tissue microarrays? For additional information, please visit our website or call 1-800-799-9499.

www.biocare.net

1. Voduc, D., Kenney, C., & Nielsen, T. O. (2008). Tissue microarrays in Clinical Oncology. Seminars in Radiation Oncology, 18(2), 89–97.

2. LARS HENNING SCHMIDT, STEFAN BIESTERFELD, ANDREAS KÜMMEL, ANDREAS FALDUM, MARTIN SEBASTIAN, CHRISTIAN TAUBE, ROLAND BUHL AND RAINER WIEWRODT. Anticancer Research January 2009, 29 (1) 201-209;