



The tissue micro array (TMA) technology presents methods for screening vast quantities of biomarker data. This enables the evaluation of a number of key determinants in disease states such as prevalence, progression and prognosis across clinical and research assays. Historically, one of the greatest challenges in using TMAs has been the bottlenecks of efficient image acquisition, core specific analysis, and data management.

ArrayImager™ manages the image acquisition, viewing, analysis and scoring stages of stratified specimen profiles across large studies with complex arrays. The user can quickly setup an imaging protocol which will capture high magnification images of the individual cores and store them in the integrated database.

Technical overview

Acquisition and sampling of series of individual images in TMA slides

Create overview images of your slides:

- Optional autofocus during capture
- Automated correction for uneven illumination of image field (for seamless stitching)
- Automated stitching of images based on stage coordinates or adjustment to previous

Navigate the slides under the microscope by clicking in the overview images

Fit user- or predefined sampling grid to your TMA slides

- Define array by the number and arrangement of cores
- Define size and shape of tissue cores.
- Define naming (coordinates) of cores in array
- Assign core ID
- Save and re-load user defined sampling grid
- Automated and manual fitting of user-designed sampling grid to actual tissue slide

Automatically capture series of high magnification, (auto-)focused images from specified cores

- Central sampling
- Complete scanning
- Systematic Uniform Random Sampling

Switch between fluorescence filters in preset sequences during acquisition

Capture series of z-stacks from thick tissue sections

Handle automated sampling from 1 or many slides (if connected to a multi-slide stage or slide loader) or virtual slides (require WManager™)

Store all captured images in database for review and analysis in newCAST™ or Visiomorph™

Easy reviewing of images in captured series

Automatic recapture of individual images at specified positions in series

Perform on-the-fly image analysis protocols during capture of image series, for fast determination of quantitative endpoints (Visiomorph™ module required)

Save and use preset acquisition configurations to control lenses, filters, illumination and exposure time during automated image capture

WManager™ (Whole slide manager add-on)

Enable sampling and analysis of Virtual Slides

Ability to work with virtual slides/whole slide images from Zeiss Mirax scanner, Hamamatsu NanoZoomer, Aperio Scanscope

Navigate in the virtual slide and change magnifications as if on a live microscope in Acquisition and NewCast™ Modules.

Automatically generate overview images at low magnification for detection of tissue regions of interest (ROI's) for subsequent sampling of image series

Perform sampling of series of images from individual tissue sections using the MicroImager™, paired tissue sections using the AutoDisector™, or from tissue micro arrays using the ArrayImager™.