VISIOPHARM®

Tissuealign™

High quality aligment of serial sections

The Tissuealign™ analysis module is an add-on to the basic image analysis system, which gives the ability to align and subsequently analyze digitized serial sections. The Tissuealign™ module is gaining importance for a number of research and diagnostic applications related to analysis of tissue properties and tissue stained with biomarkers. Two key applications are listed below.

Tumor cell detection: An important application of this module is tumor detection, using tumor markers such as cytokeratin, Melan-A, or other immunohistochemical (IHC) tumor markers. Also H&E stained tissue sections can be useful for tumor detection, despite obvious and well known limitations in robustness and dynamic range.

Tumor Micro Environment: In research applications requiring a quantitative description, assessing the co- localization of multiple biomarkers the ability to align tissue sections and coregister is often mission critical. I.e. for identification and definition of invasive tumor front as well as quantification of biomarkers relating to the immune response. Here, Tissuealign™ is a highly efficient and often a necessary approach.

Advantages Tissuealign™:

- Enables robust, automated, and verifiable identification of invasive tumor cells, invasive tumor front, stroma, and pre-invasive tumor cells (incl. DCIS)
- Allows co-localization studies of multiple biomarkers through virtual multiplexing
- Improves reproducibility, sensitivity, and specificity of automated quantitative biomarker assessments compared to manual reading
- Runs with simple and intuitive guided workflows
- Provides unprecedented speed of high-precision alignment of any number of scanned tissue sections independently of image modality

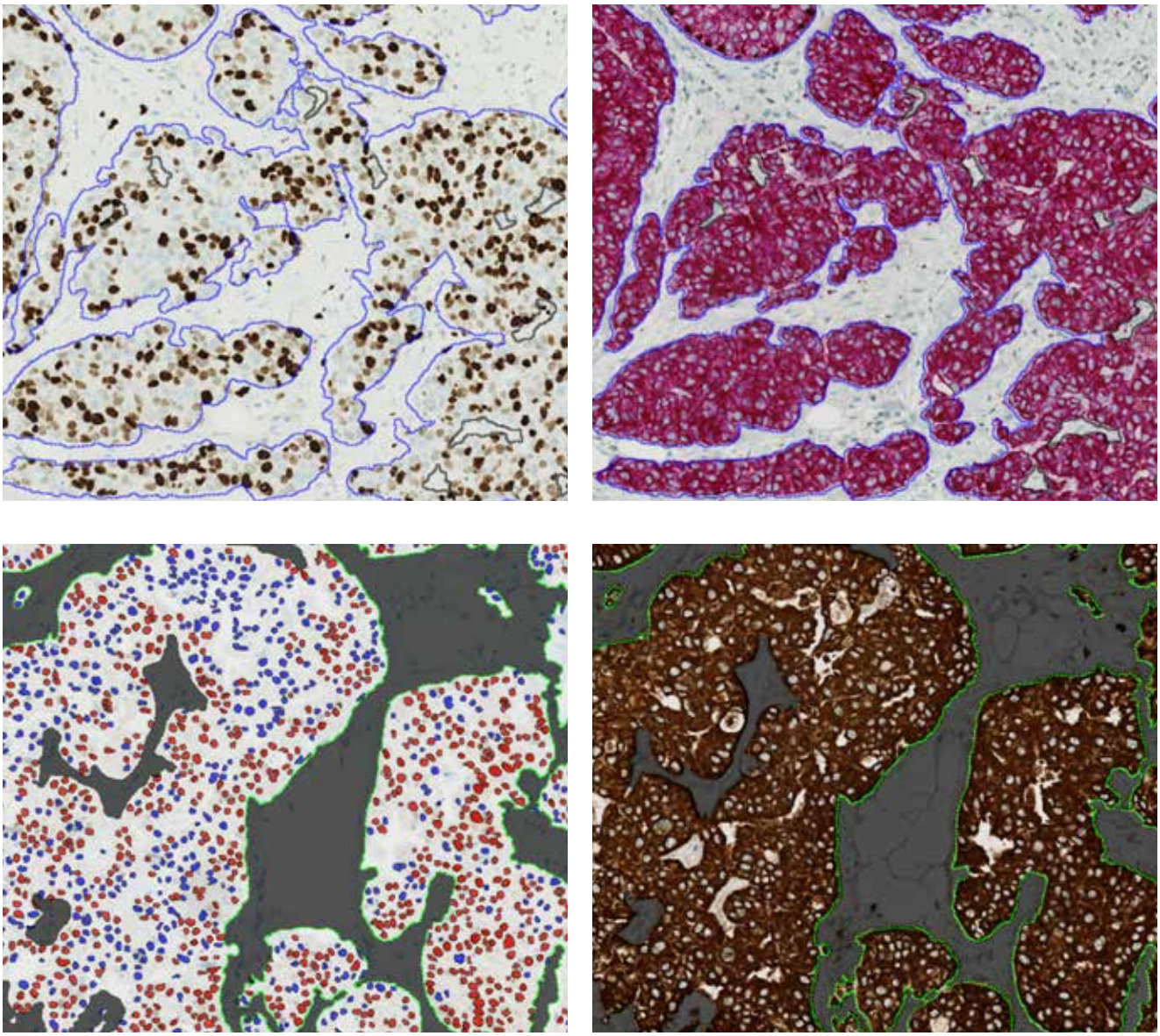

Figure 1. *Illustration of the alignment with Ki-67 and PCK+P63, PCK biomarkers in breast tissue with enlargement of 10x. Top left picture is Ki-67 immunostain with automatically highlighted Regions of Interest. Top right is PCK+p63 biomarkers with automatically highlighted Regions of Interest. Bottom left is automated ki-67 counting of positive and negative tumor cells based on the virtually underlying PCK staining. Bottom right is PCK with automatically highlighted Regions of Interest.*

This Tissuealign™ module provides unprecedented speed of high-precision alignment of any number of scanned tissue sections independently of tissue and image modality.

Tissuealign™ is validated for in vitro diagnostic use (CE IVD) in Europe in combination with the CE IVD APPs from Visiopharm (ref. 1). All other applications are for Research Use Only.

The module requires pre-installation of Engine™ and Viewer+ and can be used in conjunction with Visiopharm Author™ and Tissuearray™ modules.

References

1. Package Inserts for Visiopharm Ki-67 APP, Breast Cancer, ER APP, Breast Cancer and PR APP, Breast Cancer.

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