Definiens

Tissue Studio® 4.2

Release Notes
Overview

Thank you for using Definiens software. With this document, you will receive an overview about the product and functionality added with this release. Should you have any comment or suggestions, please do not hesitate to contact us on our support website at www.definiens.com/support or via e-mail at support@definiens.com.

About Tissue Studio®

Definiens Tissue Studio is the solution of choice for biomarker and morphological profiling in research and drug discovery on tissue samples. Through its unique ability to overcome inherent biological and staining variability, Tissue Studio accurately detects regions of interest and distinguishes cell types and cell subtypes within target regions across any number of tissue slides. It determines morphology and expression profiles per individual cell or cell compartment, solving your most challenging biological questions.

Tissue Studio supports applications for single or multiplexed Immunohistochemistry (IHC), Immunofluorescence (IF), and In-situ hybridization (ISH) in the areas of Oncology, Immunology, Angiogenesis, Metabolic Disorders, Toxicology, and many more.

Figure 1: Overview of available actions (w/o classification actions)
What’s New

At Definiens, we constantly strive to improve our products. With this new release of Tissue Studio, you will receive a range of fixes and enhancements designed to improve the overall usability and stability. Additionally, we have added new features. You will find a short description of the most important additions below.

Easy review of readouts with powerful Heat Maps
We now offer extended functionality to create Heat Maps. Using our new "Heat Map" export action, the user can configure Heat Maps based on combinations of readouts and object features. Even more customization of complex Heat Maps is possible with the updated Review Heat Map. This allows a sophisticated visual review of the local distribution of the biomarker expression, e.g. in the tumor microenvironment.

Efficient TMA core detection in cases of differing brightness levels for brightfield and IF
It is now possible to configure the TMA Core Detection for brightness variations in your image data set using a slider, minimizing and even eliminating the number of cores which required manual annotation.

Improved transfer of regions for needle biopsies
We have improved the automatic alignment for needle biopsies to allow more accurate transfer of the ROIs between consecutive slides.

Upgrade of Previous Installations

For the upgrade of your installation, please refer to our customer support.

After successful installation, you will be able to load solution files created with Tissue Studio 3.5 and above with Tissue Studio 4.2. If an old solution file is loaded, you may choose to enter into a compatibility mode with the respective version. The compatibility mode makes sure that you get exactly identical results when using the same solution. To exit the compatibility mode again and to use the current software version, press the button New Solution or load a solution that has been created with Definiens Tissue Studio 4.2.

Please note that when upgrading your solution to the new version, results may change slightly requiring a new round of validation.

The driver for Zeiss *.czi files uses the Microsoft JPEG XR codec. This may require relevant Windows updates (e.g. update KB2670838) to be installed on the systems running Definiens software.
Fixes from previous Release Notes

32435 – **Optical density cannot be exported for dual stain cell classification**
Optical density can now be exported for dual stain cell classifications.

34341 - **Shift between levels**
The small shift, which might have appeared comparing the results of the cellular analysis in the review mode has been removed.

32459 – **Fluorescence portal screenshots settings may not be migrated automatically**
Fluorescence portal screenshots settings will be migrated automatically.

32461 – **Post-processing may fail for whole slide TMA workspaces**
Post-processing does not fail for whole slide TMA workspaces.

Known Issues

Below you will find a list of the currently known issues for Tissue Studio 4.2 and possible solutions. In case of any questions please do not hesitate to contact customer support.

32462 – **Problems with eSlide integration when using IE 10 or IE 11**
When using Internet Explorer Version 10 or 11 with the Aperio eSlide integration, you may experience problems such as the absence of toolbars or failed import of data.
*Solution:* Use the latest Firefox browser.

34688 – “**CellularAnalysis**” screenshot directory may not be deleted on “Reset Workspace”
When using the “Reset Workspace” functionality, the “CellularAnalysis” directory containing previously created screenshots is not deleted automatically.
*Solution:* You can continue working, and the folder can be deleted manually at any time.

32460 – **ROI detection only takes the first six fluorescence channels into account**
Using the ROI detection for fluorescence images, the detection algorithm will use only the first six channels. Any additional channels in the dataset are ignored.
*Solution:* Use fluorescence images with a maximum of six layers for ROI detection. More layers can be used for the detailed analysis. Note that data export and visualization is possible for up to 12 channels.

35622 – **TMA has wrong unit for Area feature after DetectCores was executed**
After executing the core detection, the unit of the feature Area may be pixels instead of µm.
*Solution:* After performing the core detection: close TS and restart it, re open the workspace and proceed to the solution configuration.

35659 – **Class exported on Cell levels between subsets in IF**
It may happen in the IF portal, that a pixel line of another class is visible.
*Solution:* This line can be ignored, it has no impact on the analysis results.
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