Phenoplex™

A complete workflow for all your multiplexed image analysis needs

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Phenoplex™

Multiplex users deserve analysis software designed for multiplex images. Phenoplex is a complete workflow software for multiplex tissue images, built on Visiopharm's best-in-class AI, with interactive verification steps throughout. Make new discoveries, compare between cohorts, or reproduce previous results. Phenoplex's comprehensive workflow lets you rapidly confirm observations, no matter the 'plex level, so you can move on to the next multiplex experiment.
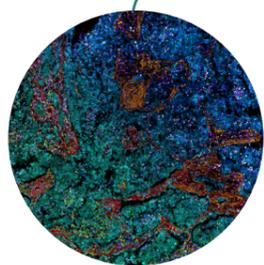
VISUALIZE

Phenoplex is compatible with all major multiplex image instruments including: Akoya Biosciences, Standard BioTools, Lunaphore, Rarecyte, Ionpath, Canopy Biosciences, Olympus, Zeiss, Leica, and more. Visual inspection is always a challenge with multiplex data sets. **Phenoplex's channel manager lets you set multiple color channel combinations to easily display cell types/ marker into logical groups.** Assign colors palates to individual channels or channel groups. Review each channel to make sure it contains appropriate data for inclusion into downstream multiplex analysis.
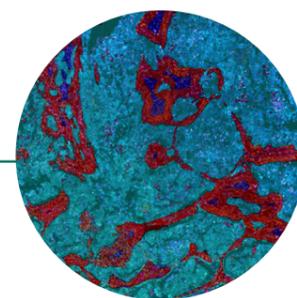
CLASSIFY TISSUE

Compartmentalizing tissue samples into independent areas of analysis will unlock even more data from multiplex images. Isolate tissue structures like tumor, stroma, necrosis, among others; subdivide into one or more marginal zones; and exclude non-relevant areas like artifacts, out of focus areas, tissue folds, etc. Improve and apply the simplified Paint-to-Train AI capabilities of Phenoplex to find these compartments across all your multiplex images.
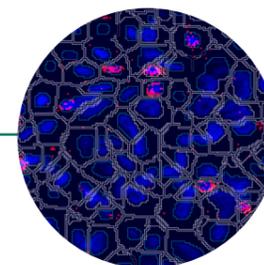
DETECT CELLS

Our superior pre-trained AI-based nuclear detection and cell segmentation algorithms for fluorescence (DAPI) and imaging mass cytometry (DNA-Iridium channels) will find most cells properly. For specific requirements, simply add training to suit the needs of your samples by incorporating more biomarkers from the panel, add irregularly shaped cells to the training set, or add some morphological rules. You have the control to generate a custom segmentation method that is highly accurate and robust for your tissue.

WATCH THE WEBINAR

PUBLISH

All stages of Phenoplex provide rich visualizations letting you to confirm your hypotheses or make new discoveries. Use the channel manager, phenotype maps, and interactive plots to continue to tell your scientific story. **All data and imagery is exportable in publication ready formats or exportable for additional analysis pipelines.** Just remember to include a reference to Phenoplex from Visiopharm as your multiplex analysis workflow assistant.
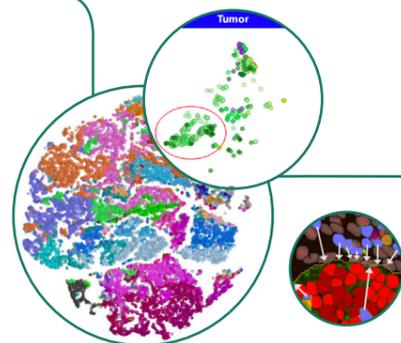
EXPLORE

After confirming the cellularity of tissue and tissue areas, it is time to really explore the multiplex data set. Phenoplex offers you a comprehensive collection of bidirectional evaluation plots to dive deeper into the results. Extract more data from each cell, calculate distances between different phenotypes and tissue boundaries, look for areas of high or low density, or explore and quantitate cellular neighborhoods. Pool data across cohorts and examine the differences between control and test populations, responders and non-responders, or many others. The complexity of multiplex data exploration is now simplified with the interactive tools available in Phenoplex.
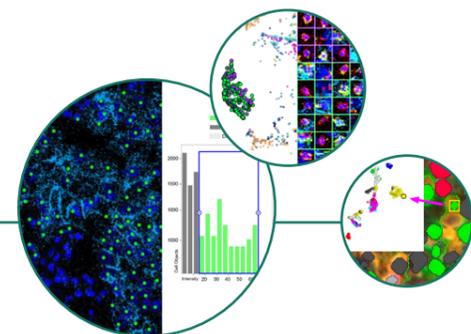
VERIFY

Trusting your results requires looking at it from different views, from a quick data review to a detailed exploration. Phenoplex offers many ways to review the data along the analysis workflow allowing you to quickly discriminate between interesting and irrelevant information. A selected data point(s) in your plots will link back to the respective cell(s) in the image to quickly verify the results of each step. Phenoplex combines graphs and t-SNE plots with recolored image views to better confirm the phenotyping results. **All graphical interfaces are interactive, and all plots can be adjusted to display each tissue compartment, phenotype, biomarker, or cell, as needed to properly interrogate results.**
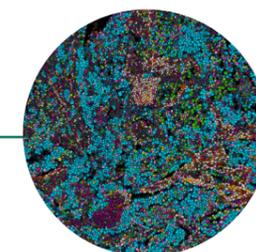
PHENOTYPE

Understanding the cellularity of multiplexed tissue is the critical first step to deeper quantification. Phenoplex offers several methods to identify all the cells in the tissue, giving you complete control of the phenotyping rules. Phenotyping can be done in three ways: manually, allowing you to define all the rules for each cell type; automatically, where Phenoplex AI searches and finds phenotypes for you; or in a Phenoplex guided workflow where you adjust thresholds for each biomarker to determine cellular positivity. Phenoplex will then generate a sortable color-coded list of cellular phenotypes and apply those colors to all the cells in your image. Apply the phenotyping step to all multiplexed images for even more color-consistent viewing options.

Service and Support

You are not alone on your multiplex analysis journey. Visiopharm's award winning professional services and support teams are based in US, Europe, and China to provide you with answers and help for any questions. Join us for an upcoming Visiopharm Academy course - from beginners to advanced - and participate virtually or on-site in US and Europe.

Visiopharm

We are a leading provider of AI-driven precision pathology software for research and diagnostics.

In research, we are a technology leader providing tools that help scientists, pathologists, and image analysis experts produce accurate data for all types of tissue-based research.

In diagnostics, we are a leader within clinical applications, with no less than eight diagnostic algorithms cleared under IVDR for EU/UK customers. These applications provide diagnostic decision support and can be easily activated and integrated into existing lab workflows.

Founded in 2002, we are privately owned and operate internationally with over 750 customer accounts in more than 40 countries. Our headquarters are located in Denmark's Medicon Valley, with offices in Sweden, the UK, Germany, the Netherlands, and the United States, and local representation in France and China.

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Stay curious

Learn more

GLO/MUL-PHE/161/3_10-2023