

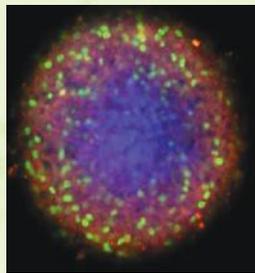
# 3Screen™

## Quantitative 3D Tissue Analysis Services

3Screen™ leverages our patented Visikol® HISTO™ tissue clearing technology and our quantitative 3D imaging expertise to bring you the market's first high-throughput 3D tissue imaging service.

### In Vitro Services

Combine biomimetic 3D cell culture models with true 3D analysis.

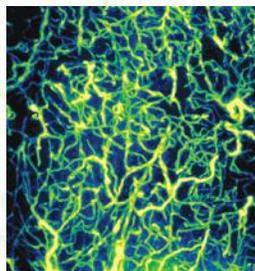


### Applications

- Antibody Penetration
- Apoptosis
- Angiogenesis
- Cell Proliferation
- Cholestasis
- DILI
- Fibrosis
- Immune Cell Invasion

### Whole Mount Analysis Services

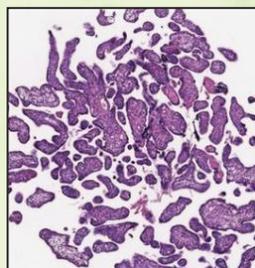
Add a new dimension to your histological workflow and characterize whole tissues in 3D.



- Vasculature Mapping
- Nanoparticle Penetration
- Neuron Activation
- Immunohistochemistry
- Protein Expression
- Viral Infections

### Digital Pathology Services

Move beyond qualitative analysis and towards quantitative pathology.



- Feature Extraction
- Clustering Analysis/Classification
- Slide Scanning
- Quantitative Pathology
- Imaging Cytometry

## 3Screen™ In Vitro Services

### The Market's First High-Throughput 3D Analysis Platform

#### Complete 3D Cell Culture Characterization

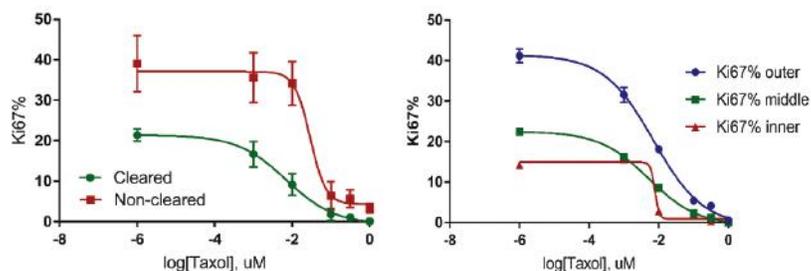
3D *in vitro* cell culture models are being rapidly adopted for drug discovery due to their improved *in vivo* relevancy. However, current characterization assays paradoxically do not capture the 3D data that makes these models intrinsically more valuable. Additionally, current confocal and wide-field imaging assays can severely bias results towards only characterizing the periphery of these models.

#### The 3Screen™ Difference

Our 3Screen™ *in vitro* services combine our patented Visikol® HISTO™ tissue clearing technique with fluorescent labeling, automated processing and high content confocal analysis to acquire all of the data from these models.

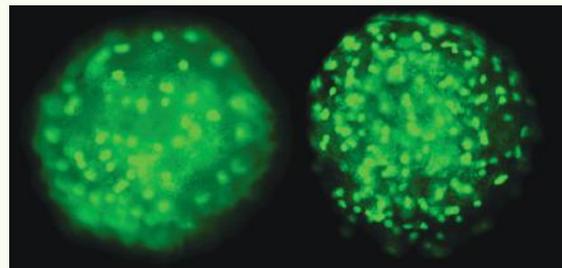
#### Applications

- Antibody Penetration
- Apoptosis
- Angiogenesis
- Cell-cell Junctions
- Cell Proliferation
- Cell Migration
- Cell Viability
- Cholestasis
- Drug Induced Liver Injury
- Fibrosis
- Immune Cell Invasion
- Inflammatory Signaling
- Mitochondrial Health + Toxicity
- NASH
- ROS
- Steatosis



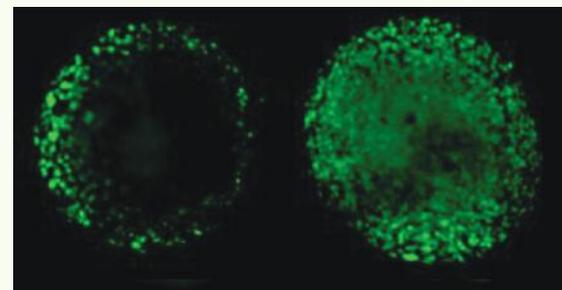
The 3Screen™ platform dramatically improves assay sensitivity while reducing bias and allows for spatial characterization.

#### Advantage – Wide Field Imaging



3Screen allows for a 3-fold increase in cells detected using wide field imaging.

#### Advantage – Confocal Microscopy



3Screen platform enables complete 3D cell culture characterization.

#### Bespoke Assay Development

We work closely with clients to develop customized 3Screen™ assays that use novel 3D cell culture models and customized end-points.

#### How it Works

1. Choose an assay of interest from our menu of 3Screen™ *in vitro* assays.
2. Define end-points of interest.
3. Choose 3D *in vitro* model. Visikol partners with InSphero to provide best-in-class microtissues as well as PDX models.
4. Visikol runs assays and provides quantitative multi-dimensional report back to the client.

## 3Screen™ Digital Pathology Services

### Add Quantitative Data to Your Histology Workflow

#### Two-dimensional Histology

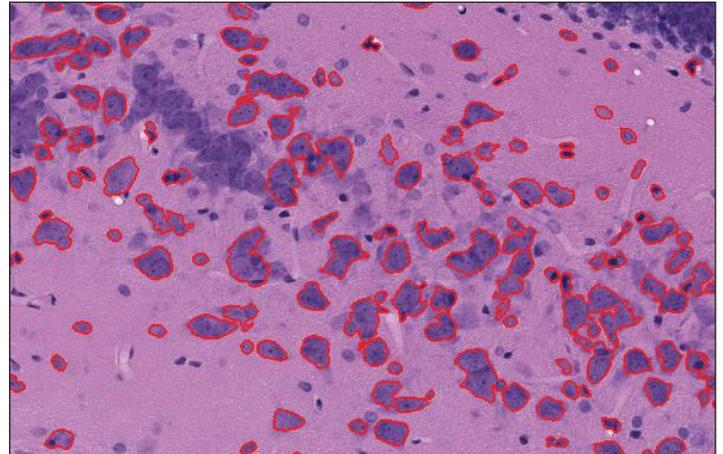
While Visikol was originally formed to address the problem of being able to acquire 3D microscopy data from tissues, there is a secondary, but also fundamental limitation with histology. This limitation is that histology is currently a qualitative art where pathologists qualitatively analyze tissues.

#### The 3Screen™ Difference

Over the last few decades digital image analysis approaches have advanced to a point where they are capable of quantitatively analyzing histology data instead of the traditional qualitative and subjective approach. At Visikol, we are leveraging our expertise in digital imaging analysis to bring quantitative slide analysis to your workflow.

#### How it Works

- 1 Define your research question, morphological features and desired end-points.
- 2 Send Visikol slides for slide scanning or digital renderings of slides.
- 3 Visikol extracts key features from digital renderings and analyzes based upon research question.
- 4 Visikol returns quantitative analysis report back to the customer.



#### Traditional Histology

- Subjective
- Qualitative Report
- Arbitrary Scores
- Language-based Analysis

#### 3Screen™

- Numerical Endpoints
- P Values
- Statistical Comparison
- Rank Orders
- No Bias



## 3Screen™ Whole Mount Services

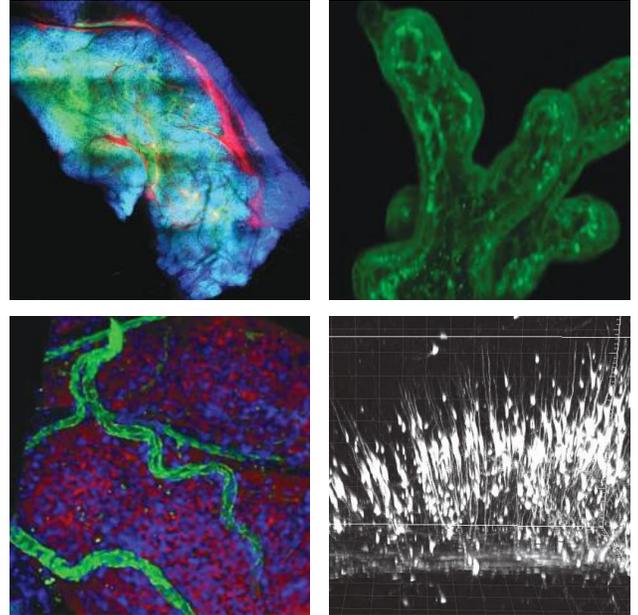
### Add a New Dimension to Your Research

#### History of Histology

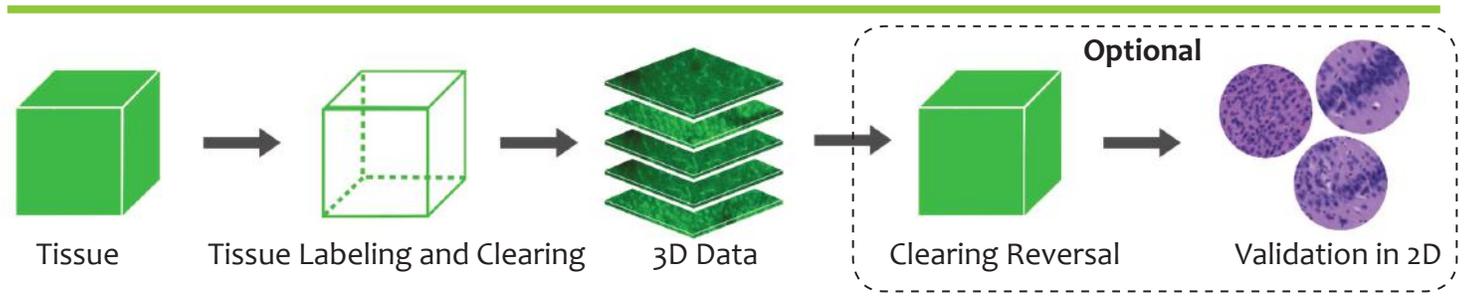
While the practice of 2D histology is foundational to all life science fields including diagnosis and drug discovery, it is limited in describing complex and heterogenous tissues/features.

#### The 3Screen™ Difference

To overcome this problem, we developed the patented Visikol® HISTO™ technology which allows for the 3D microscopic imaging of whole tissues through the combination of tissue clearing with fluorescent labeling and 3D microscopy. Our 3Screen™ platform combines the Visikol® HISTO™ technology with automated tissue processing, high-throughput imaging and 3D data analysis.



A) Murine mammary tissue Zika localization, B) Placenta vasculature mapping, C) Prostate tumor mapping and D) Connectomics mapping.



#### How It Works

Define your research question and send us your tissues and we will send back a quantitative report detailing end-points specific to your question.

#### Applications

- Antibody Penetration
- Blood Vessel Mapping
- Cell Proliferation
- Cell Localization
- 3D H&E
- Nanoparticle penetration
- Nerve Activation
- Viral infections

#### Custom Assays

We work closely with clients to develop customized 3Screen™ assays.

- 1 Define tissue, labels of interest and desired end-points.
- 2 Visikol team optimizes labeling and imaging through small proof-of-concept study.
- 3 Visikol conducts project and delivers detailed report or implementation plan back to client.