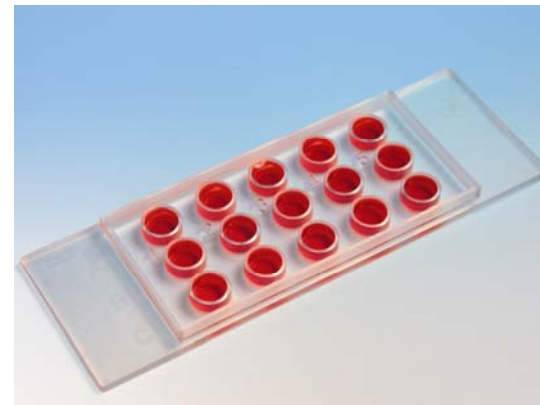


Product Information

μ -Slide Angiogenesis



What is Angiogenesis?

Definition:

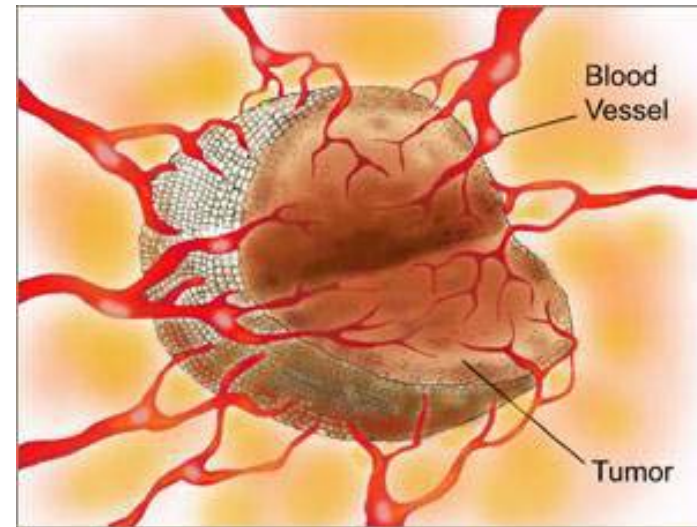
Formation of new blood vessels to tumors

Aim:

Hinder the new vessels and you hinder tumor growth!

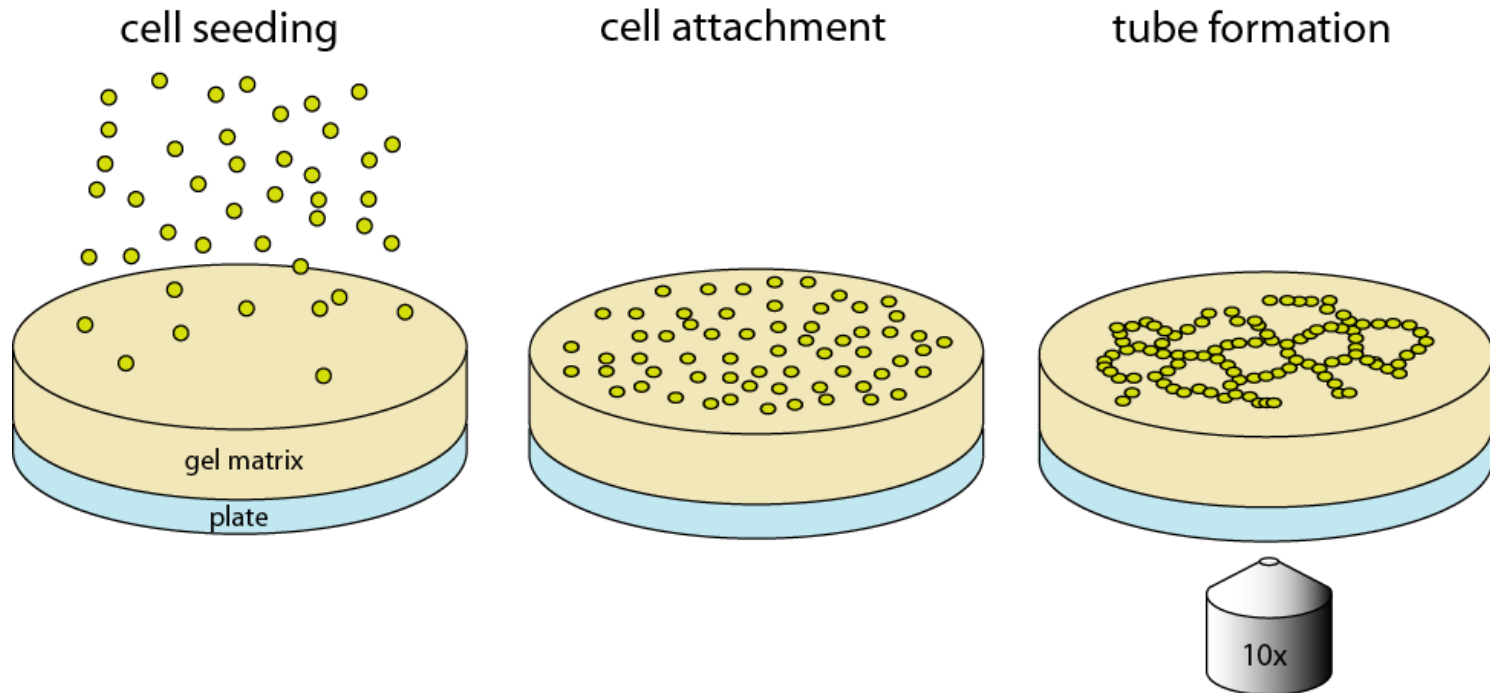
Assays:

Tube formation assay
Sprouting assay



Tube Formation Assay:

Cells cultivated on a gel matrix form tubes and nodes.

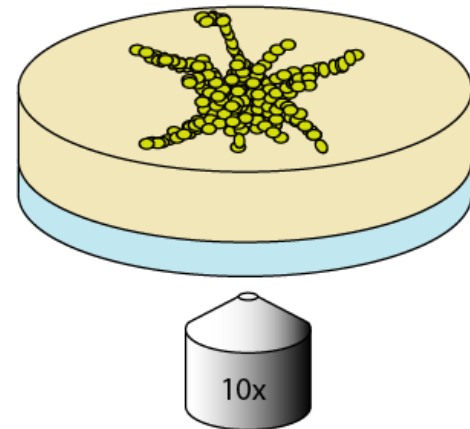
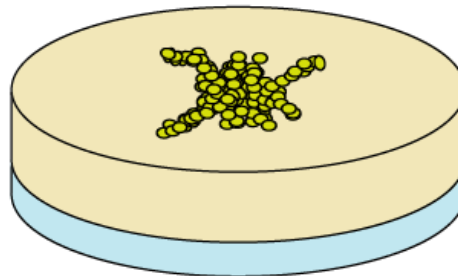
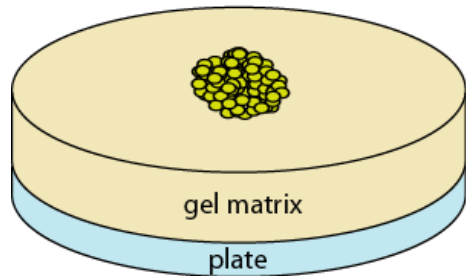


Sprouting Assay:

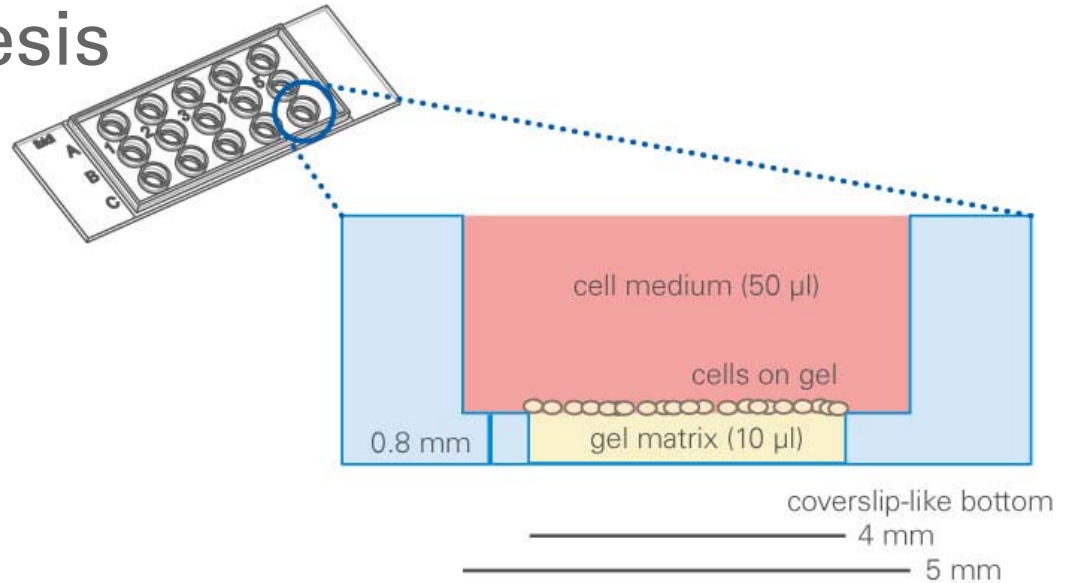
Cell spheroids or aortic rings cultivated on a gel matrix form sprouts.

cell spheroid

sprouting

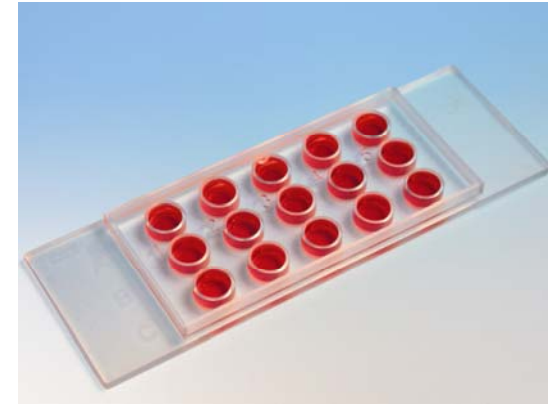


μ -Slide Angiogenesis



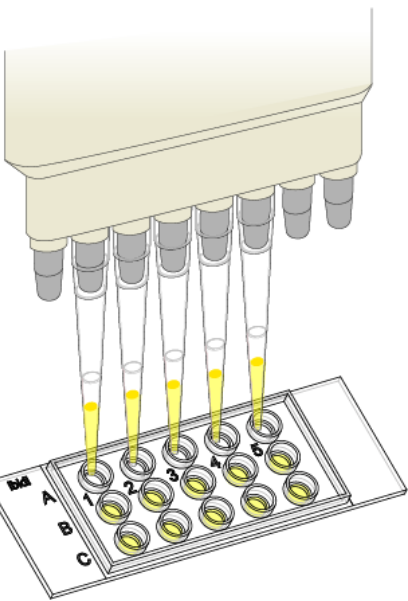
- 15 wells marked with numbers and letters
- 4 mm wells in 5 mm wells
- Lower well (for 10 μ l gel matrix)
- Upper well (for 50 μ l medium)
- Standard slide format
- Lid for low evaporation

- Excellent optical properties for microscopy
- Homogeneous cell growth
- Compatible with staining and fixation
- Compatible with multi-channel pipettes
- Biocompatible plastic material – no glue, no leaking
- For various types of gels (Matrigel™, collagen, agarose)*

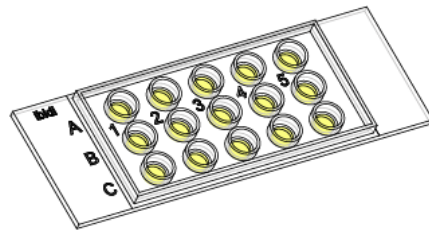


***Please note: The gel matrix is not part of the product!**

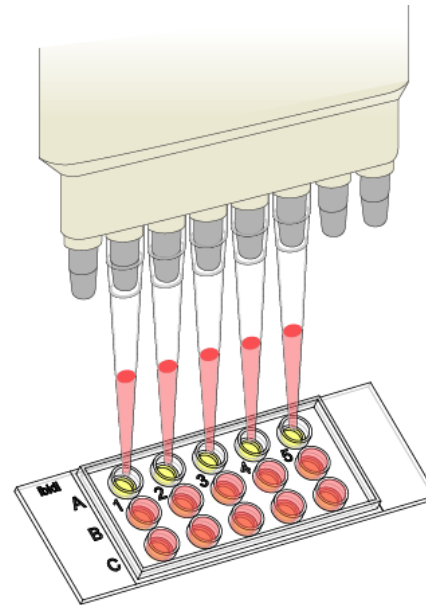
Short Protocol for μ -Slide Angiogenesis



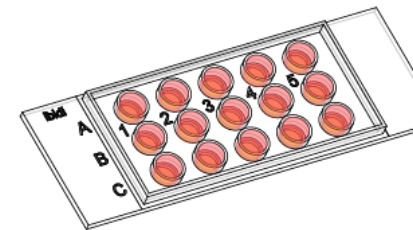
Gel Pipetting



Gel Polymerization

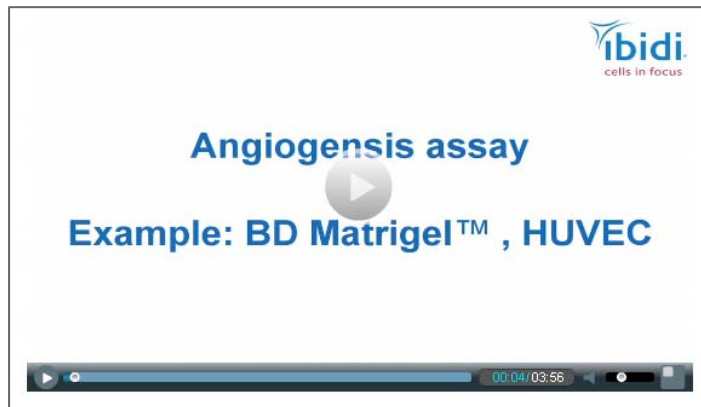


Cell Seeding



Experiment

- **Application Note 19:**
Tube formation assay
- **Movie:**
Performing an Angiogenesis assay



Application Note 19



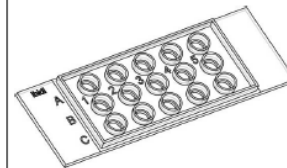
Tube formation assays in μ -Slide Angiogenesis

1. General Information

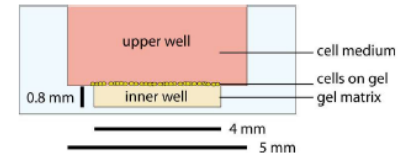
The μ -Slide Angiogenesis is designed for tube formation observation on an inverse microscope. It can be used with all common gel matrices like Matrigel[®], collagen gels and hyaluronic acid gels. Only 10 μ l gel per well are needed.

The platform provided by μ -Slide Angiogenesis eliminates the meniscus effect often observed in other well formats. Every cell on the flat gel surface is observable with high quality phase contrast or fluorescence microscopy.

For easy handling the wells are compatible with multi-channel pipettes. The plastic is compatible with various fixing solutions such as isopropanol, methanol, paraformaldehyde and others. The optical properties of the plastic bottom are comparable to those of glass coverslips.



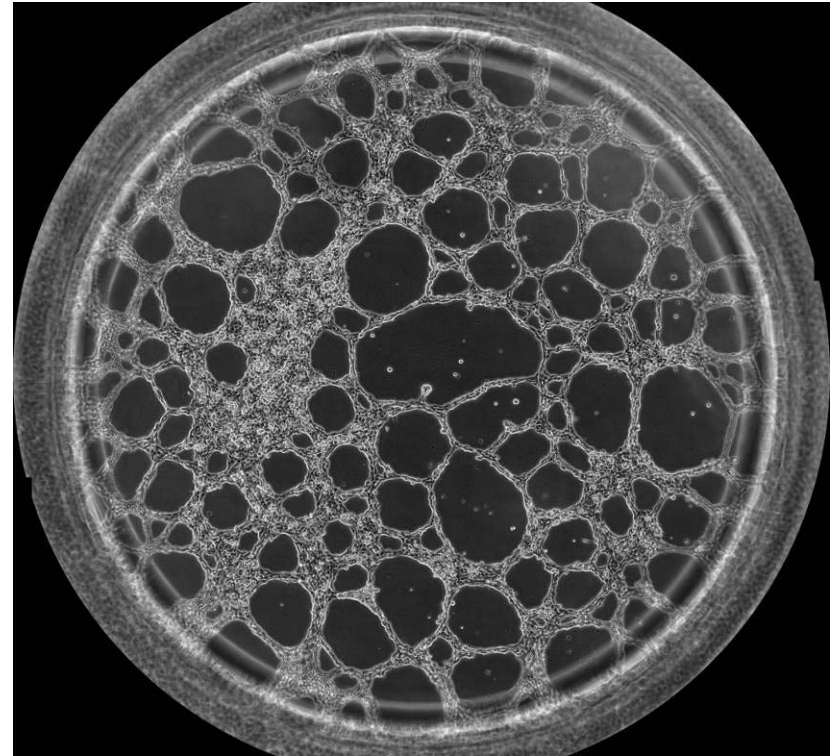
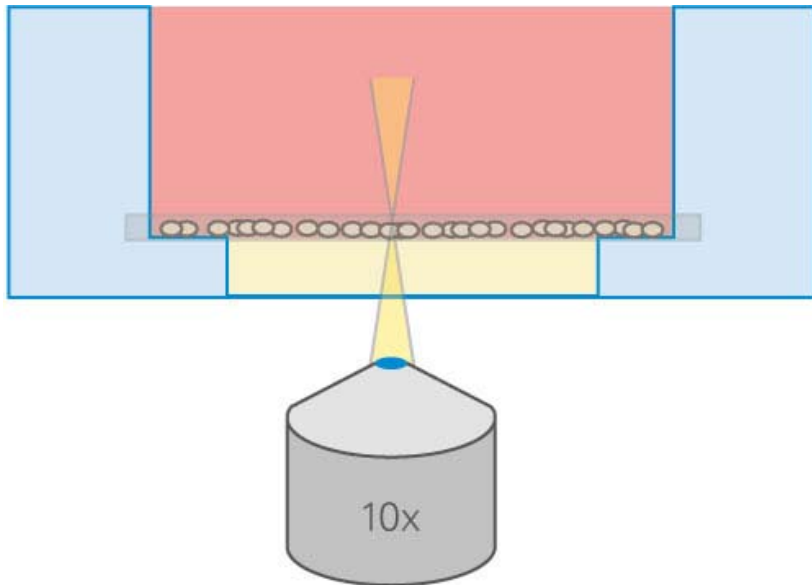
μ -Slide Angiogenesis



Cross section of one well

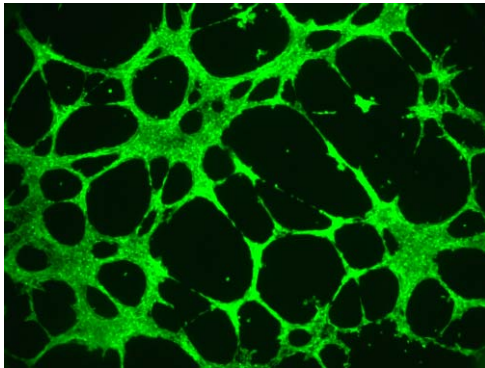
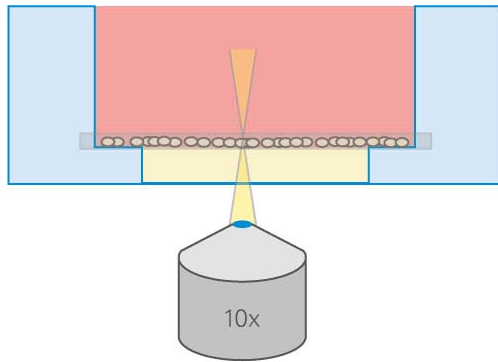
This application note describes an example setup with μ -Slide Angiogenesis for tube formation with endothelial cells (HUVEC) on Matrigel[®].

All cells in focus



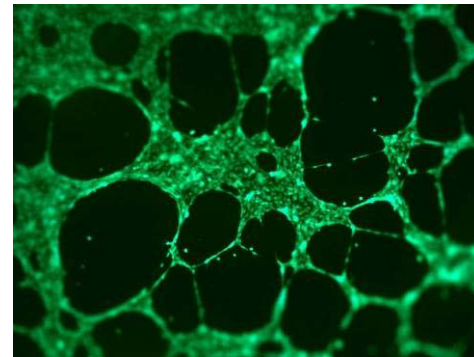
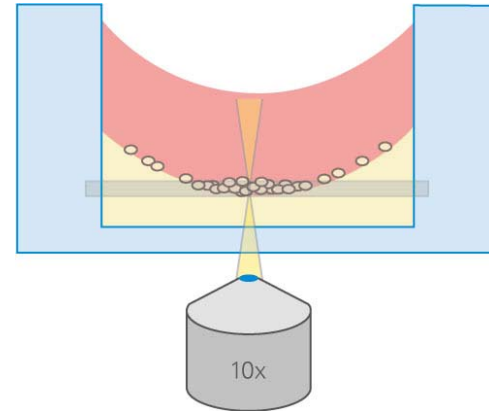
Tube formation assay of primary endothelial cells on Matrigel™

No meniscus in μ -Slide Angiogenesis



All cells in focus

Meniscus in 96 well plate



Only few cells in focus

Angiogenesis assays in μ -Slide Angiogenesis vs. 96 well plate

μ -Slide Angiogenesis

- 10 μ l gel per well*
- No meniscus
- Excellent optics
- 15 wells
- Slide format

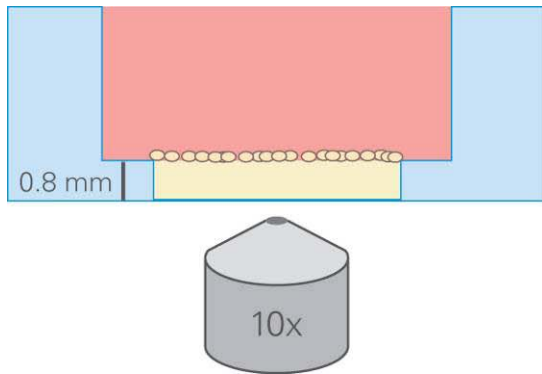
96 well plate

- 100 μ l gel per well*
- Meniscus formation
- Poor optics
- 96 wells
- Multi well format

*Saves 90% gel per assay. In case of BD Matrigel[™] the costs are reduced from approx. 3 € to 0.3 € per well/assay.

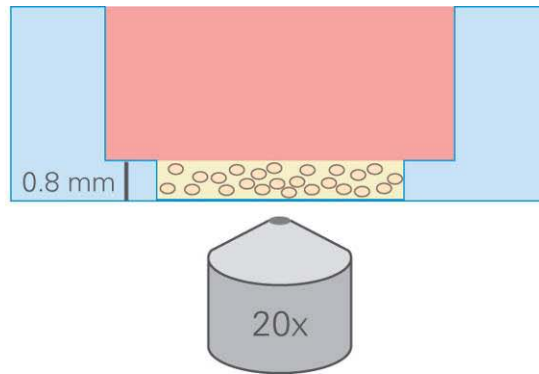
Microscopy Properties

Cells on gel matrix



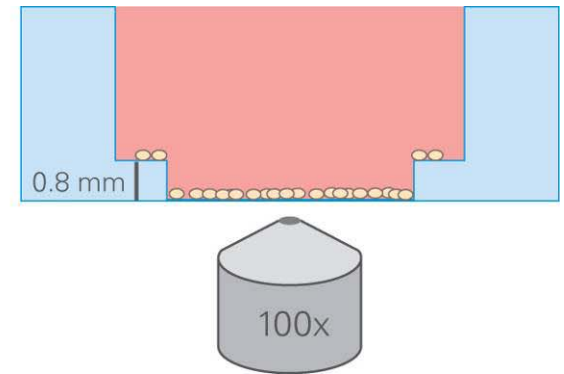
Only for objective lenses with working distances over 1 mm

Cells in gel matrix

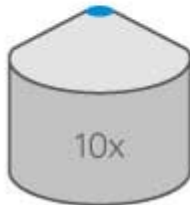


For all objective lenses (up to 100x) and all microscopy techniques

Cells without gel matrix

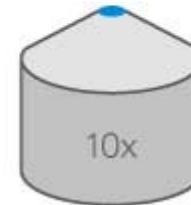


10 μ l gel create a
plane surface



- Good optics
- Homogeneous cell distribution

~ 5 μ l gel create a
bent surface

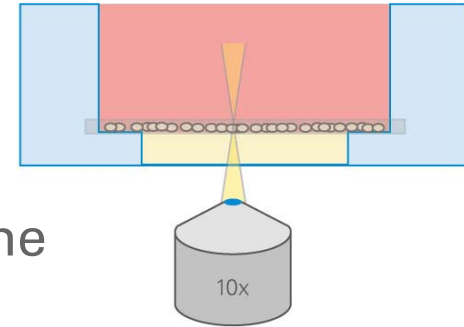


- Mini-well for few cells
- Cell accumulation in the center

Summary of Benefits

- **Brilliant visualization:**

No meniscus formation, all cells in one focal plane



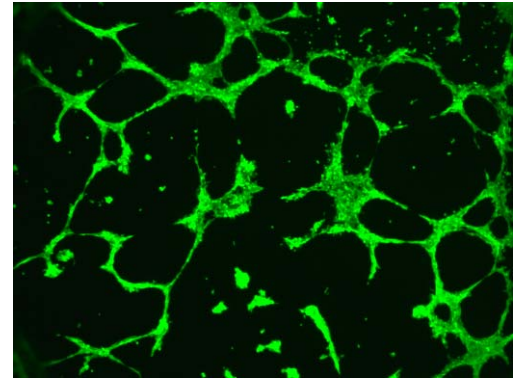
- **Lower costs:**

10 μ l of gel per well = reduction of > 90% compared to 96-well or 24-well plate

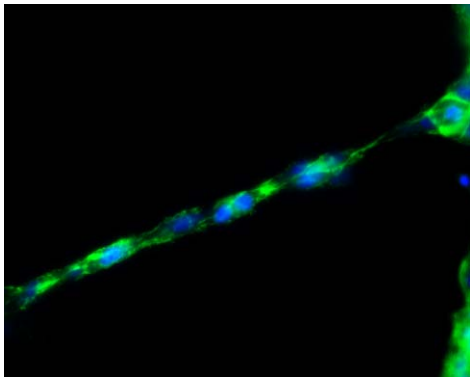
- **Flexible:**

Broad range of gel applications (Matrigel[™], collagen, agarose)

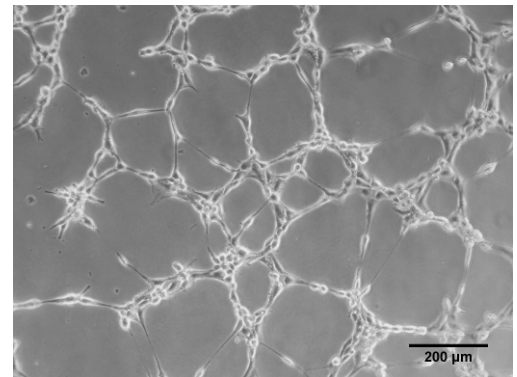
- Cells on or in gels (e.g. BD Matrigel™)
- Tube formation
- Sprouting assays
- Aortic ring assay
- Cell spheroids
- General cell culture



Tube formation, Source: Peter Nelson, LMU, Munich, Germany



HT-1080 cells on growth factor reduced BD Matrigel™, Single tube with stained Actin filaments (green) and nuclei (blue)



Tube formation of HMEC on BD Matrigel™

Free sample program

Get free samples on:

 www.ibidi.com

