



## Skin vascularization

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### ***In vitro* assay to measure Angiogenesis**

**Angiogenesis** is a vital process for normal tissue development and wound healing, but hypervascularization is also associated with a variety of skin conditions like rosacea or purple circles. *In vitro*, angiogenesis is studied by the Endothelial Cells Tube Formation Assay (ETFA), based on Human Umbilical Vein Endothelial Cells (HUVEC) seeded on top of a reconstituted basement membrane. The network of tube-like structures is visualized using a bright light microscope, and images are used to measure microvascular parameters.

**StratiCELL** tests the efficacy of innovative dermo-cosmetic active ingredients to modulate skin vascularization by measuring angiogenesis using ETFA assay.



## Cell System

**HUVEC** : Human Umbilical Vein Endothelial Cells



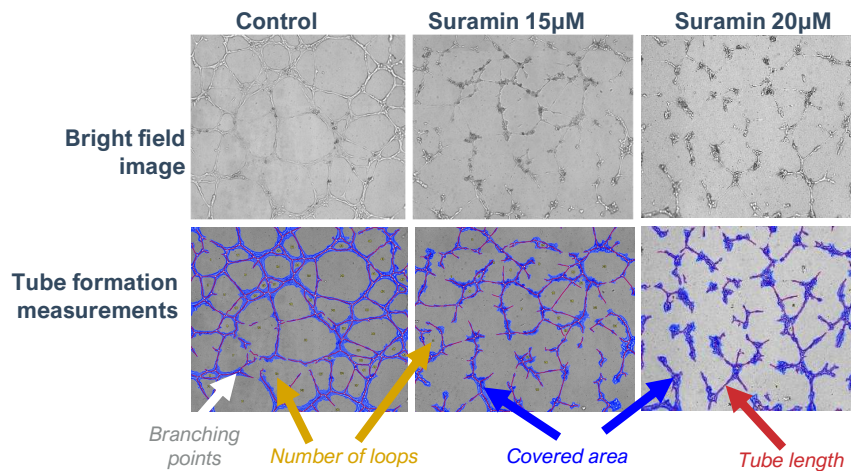
## Positive Reference

- Pro-angiogenic : endothelial growth factors
- Anti-angiogenic : suramin

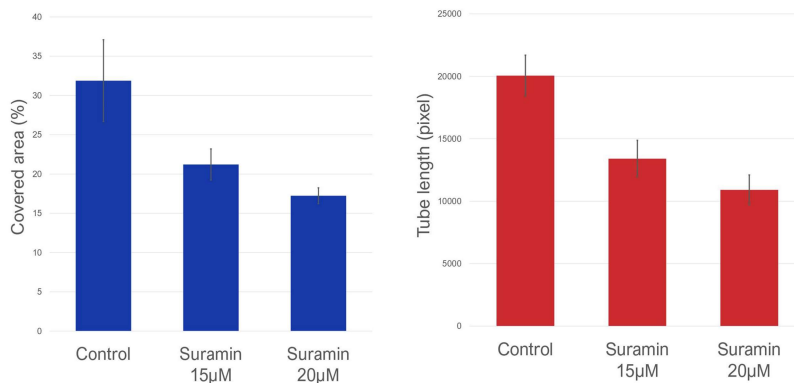


## Testing Method

**ETFA** : HUVEC seeded on top of a reconstituted basement membrane spontaneously realign to form a network of tube-like structures that replicates microvascular capillary.



Representative bright field images of ETFA untreated (Control) or treated with suramin at 15µM or 20µM, and the corresponding measurement of branching points (white points), number of closed loops in the mesh (yellow numbers), area covered by cells (blue surface), and microvascular tube length (red lines).



Quantitative analysis of the percentage of surface covered by cells (left/blue) and microvascular tube length (right/red), based on bright field images of ETFA untreated (Control) or treated with Suramin at 15µM and 20µM, using Wimasis Image Analysis services.

Visit [www.StratiCELL.com](http://www.StratiCELL.com) for additional testing methods related to inflammation and oxidation