

# Nanograft seeded with three cell types promotes blood vessel formation to speed wound healing

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Credit: Mary Ann Liebert, Inc., publishers

Large or slow-healing wounds that do not receive adequate blood flow could benefit from a novel approach that combines a nanoscale graft onto which three different cell types are layered. Proper cell alignment on the nanograft allows for the formation of new blood vessel-like structures, as reported in of *Tissue Engineering, Part A*.

Tae Hee Kim, Soo Hyun Kim, PhD, Kam Leong, PhD, and Youngmee

Jung, PhD, Korea Institute of Science and Technology, Korea University, Korea University of Science and Technology (Seoul, Korea) and Columbia University (New York, NY), describe the nanoscale topography and triculture [technology](#) they used to create a microenvironment that mimics what occurs in normal [tissue](#) and can promote angiogenesis. They demonstrate how the shape, width, and depth of the nanograft all affected the behavior of the cells and the formation of stable capillary-like tubular structures.

In the article "Nanografted Substrata and Triculture of Human Pericytes, Fibroblasts, and Endothelial Cells for Studying the Effects on Angiogenesis," the researchers describe how this technique could be applicable for treating wounds that do not heal well naturally.

"The combination of advanced materials and polycellular administration is opening new paths to the all-important requirement for angiogenesis in [tissue engineering](#)," says Co-Editor-in-Chief Peter C. Johnson, MD, Principal, MedSurgPI, LLC and President and CEO, Scintellix, LLC, Raleigh, NC.

**More information:** Tae Hee Kim et al, Nanografted Substrata and Triculture of Human Pericytes, Fibroblasts, and Endothelial Cells for Studying the Effects on Angiogenesis, *Tissue Engineering Part A* (2016). [DOI: 10.1089/ten.tea.2015.0461](https://doi.org/10.1089/ten.tea.2015.0461)

Provided by Mary Ann Liebert, Inc

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