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**HUMACYTE SCIENTISTS RECOGNIZED WITH 2011 *POPULAR MECHANICS*  
BREAKTHROUGH AWARD FOR MEDICINE**

*Bioengineered veins also received Frost & Sullivan 2011 North American  
New Product Innovation Award*

RESEARCH TRIANGLE PARK, N.C., Oct. 4, 2011 – Humacyte’s groundbreaking new technology to create “off the shelf” human veins for use in life-saving vascular surgeries has been recognized by *Popular Mechanics* magazine as one of the “Breakthrough” innovations of 2011 that is “changing our world for the better.” Humacyte founder, Laura Niklason and co-founders Shannon Dahl and Juliana Blum will accept the award during a ceremony at the Hearst Tower in New York City on Monday, October 10.

The award recognizes Humacyte’s innovation in developing the first bioengineered veins made from human cells that retain their strength and efficacy during long-term storage, making the veins implantable into anyone and immediately available at the time of patient need. These bioengineered blood vessels also showed improved resistance to obstruction and clotting. Additionally, the new method allows large numbers of grafts to be cultured from one cell bank, which has the potential to significantly reduce manufacturing costs.

“It is always gratifying to be recognized for our work,” said Niklason. “And, this technology is especially exciting because of the great potential that it holds to improve the lives of patients with heart disease and diabetes.”

Dr. Niklason will also participate in a panel discussion titled “From Invention to Reality” at the Breakthrough Conference sponsored by the magazine. During the panel, scientists will discuss their work with other scientists, engineers and technologists as well as *Popular Mechanics* editors and representatives from the media at large.



“From off-the-shelf blood vessels to a cell-phone tower the size of a Rubik’s Cube, our Breakthrough Award winners not only capture the imagination, but hold the potential to improve and save lives,” says James B. Meigs, editor-in-chief of *POPULAR MECHANICS*. “We are pleased to honor this year’s diverse list of visionaries, as they will undoubtedly help to shape the future of innovation.”

In September, the Humacyte bioengineered vein technology was also recognized with the 2011 North American New Product Innovation Award in the Vascular Grafts market by Frost & Sullivan. Frost & Sullivan is a global research organization of 1,800 analysts and consultants who monitor more than 300 industries and 250,000 companies.

Development of the bioengineered vein technology has been led by Humacyte, Inc. with key collaborating scientists and researchers from Duke University, East Carolina University and Yale University. The development and function of these readily available bioengineered veins was featured in the February 2011 edition of the journal, *Science Translational Medicine*.

### **About The Scientists**

Laura Niklason, M.D., Ph.D. is a Professor at Yale University and Founder of Humacyte, Inc. Niklason is one of the world’s leading experts in cellular therapies and bioengineered tissues. Her research focuses primarily on regenerative strategies for cardiovascular and lung tissue. She is a world leader in the development of engineered blood vessels, as well as the engineering of whole implantable tissue-engineered lungs. Niklason speaks nationally and internationally on her research and has received numerous awards for scientific excellence. Niklason received her Ph.D. from the University of Chicago, her M.D. from the University of Michigan and completed post-doctoral scientific training at Massachusetts Institute of Technology.

Shannon Dahl, Ph.D. is Senior Director of Scientific Operations and Co-Founder of Humacyte. Dahl has been instrumental in leading in vivo testing of Humacyte’s tissue engineered vascular grafts, working closely with surgical collaborators as well as with the Food and Drug Administration (FDA) for design of pre-clinical studies.



She has advanced manufacturing practices for production of tissue engineered products and defined relevant vitro tests for quality release of tissue engineered products. Dahl received her S.B. from the Massachusetts Institute of Technology, where she performed research in conjunction with Harvard Medical School. She received her Ph.D. from Duke University.

Juliana Blum, Ph.D. is a Co-Founder of Humacyte, Inc. where she currently serves as Senior Director of Business Operations. Blum oversees day to day operational activities and leads key external collaborations. She is responsible for developing, executing, and managing the company's tissue supply chain. In this role, Blum combines her molecular biology expertise with tissue engineering to aid in improving the technologies surrounding Humacyte's vascular graft and therapeutic filler products. Blum received her doctorate in Molecular Biology from Loyola University in Chicago, with a focus in gene therapy and cardiovascular disease, and her B.S. degree from Carthage College in Wisconsin.

### **About Bioengineered Veins**

Humacyte's bioengineered veins are manufactured in a novel bioreactor system, decellularized, and may be stored for up to 12 months under refrigerated conditions. Decellularization renders bioengineer veins non-immunogenic, making them implantable into anyone. Simple storage conditions will also allow these veins to be stored on-site in hospitals, making them readily available to surgeons and patients; eliminating the wait for vein production or shipping. Bioengineered veins (3-6mm in diameter) have demonstrated excellent resistance to occlusion in large animal models for up to one year. It is estimated that more than 500,000 patients could potentially benefit from this new technology each year.

### **About Humacyte**

Humacyte, a privately held company, is primarily focused on developing products for vascular disease and for therapeutic filling and soft tissue repair. The company uses its innovative and proprietary platform technology to engineer human, extracellular matrix-based tissues that can be shaped into tubes, sheets, or particulate conformations, with properties similar to native tissues. These can then be used in many specific



applications, with the potential to significantly improve treatment outcomes for a variety of patients, including those with vascular disease and those requiring hemodialysis. The

company's proprietary technologies are designed to result in off-the-shelf products that can be utilized in any patient. The company Web site is [www.humacyte.com](http://www.humacyte.com).

**Forward-Looking Statement**

Information in this news release contains “forward-looking statements” about Humacyte. These statements, including statements regarding management’s projections relating to future results and operations, are based on, among other things, management’s views, assumptions and estimates, developed in good faith, all of which are subject to known and unknown factors that may cause actual results, performance or achievements, or industry results, to differ materially from those expressed or implied by such forward-looking statements.

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