

Frost & Sullivan Lauds Humacyte for its Game-changing Immunocompatible Vascular Grafts

Humacyte's grafts resolve technical, immunogenic, quantitative and time-related challenges of biomaterials

MOUNTAIN VIEW, Calif. — XX — Based on its recent analysis of the vascular grafts market, Frost & Sullivan recognizes Humacyte, Inc. with the 2011 North American Frost & Sullivan Award for New Product Innovation for its vascular grafts. These grafts, produced using the company's tissue engineering extracellular matrix (ECM) technology, satisfies the industrial requirements for an immunocompatible, structurally viable, readily available, and user-friendly synthetic vascular graft.

According to the National Kidney Foundation, approximately 300,000 patients are on dialysis in the United States and around 100,000 new patients are reported each year. More than half of these patients require synthetic vascular grafts to receive bloodstream access for the dialysis process. These numbers become all the more significant considering that polymeric grafts fail at some point in most patients, resulting in complications.

As polymeric grafts are developed using the patient's own cells, they can be used only by that particular patient and its production involves a long wait. Further, these grafts have large diameters and are not suitable for all surgical applications. On the other hand, Humacyte propagates acellular human engineered vascular grafts so they are available off-the-shelf and can be maintained at hospitals to be used on demand and in emergencies.

"Vascular grafts are made of decellularized engineered human tissues, which increase patient acceptance considerably when compared to polymeric vascular grafts," said Frost & Sullivan Research Analyst Tejaswini Prabhu. "Since these grafts can be stored for up to a year and the company is capable of manufacturing multiple products simultaneously, they are instantly available to many patients."

Several companies involved in tissue engineering use the ECM technology, however, the finesse and complexities of vascular grafts renders this technology complex. Humacyte make use of a customized version of ECM wherein human vascular cells from numerous donors are isolated, grown and cultured on a biodegradable tubular scaffold to produce a three dimensional vascular graft. Once grown the tissue grafts are decellularized resulting in an acellular vascular graft that is sturdy, readily available and has a low rate of infection.

Although Humacyte's vascular tissues have higher initial costs than conventional polymer grafts, they help save on repeated surgeries, as they have an impressive in-life span.

"The success of these grafts is attributed to both patient acceptance and the resistance of the grafts to clotting, infection and obstruction," said Tejaswini "They can be engineered to possess small diameters, which allow them to be used in high-end and futuristic applications such as artificial organs and combinational devices."

Each year, Frost & Sullivan presents this award to the company that demonstrates innovation in the development of a product. The recipient leverages leading edge technologies to offer value-added features while increasing the ROI for customers. In turn, the innovation enables the company to acquire new customers and increase their market penetration.

Frost & Sullivan Best Practices Awards recognize companies in a variety of regional and global markets for demonstrating outstanding achievement and superior performance in areas such as leadership, technological innovation, customer service and strategic product development.

Industry analysts compare market participants and measure performance through in-depth interviews, analysis and extensive secondary research to identify best practices in the industry.

About Humacyte, Inc.

Humacyte Inc. was founded in 2004 in North Carolina, USA by Dr. Laura Nikalson, Dr. Juliana Blum and Dr. Shannon Dahl to commercially manufacture off-the-shelf synthetic vascular grafts using the patented cell-based process. Since its inception, the company has been growing medical devices from human cells. Apart from its vascular graft products, Humacyte Inc. manufactures therapeutic filler products for tissue repair and regeneration. Presently, the company is working on upscaling their manufacturing process and increasing the storage time of its vascular grafts. In addition, the company is actively involved in several R&D pipeline products taking advantage of the depth of their ECM platform technology .

About Frost & Sullivan

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