ACell MatriStem Technology Ranks Highest In Constructive Remodeling

ACell, Inc., a leading developer of next-generation regenerative medicine products, announced today that its MatriStem medical devices demonstrate the highest constructive remodeling response in a recent study comparing 14 extracellular matrices (ECM) designed to aid in surgical procedures. The study, "Macrophage phenotype as a predictor of constructive remodeling following the implantation of biologically derived surgical mesh materials," by Bryan Brown and other researchers of the McGowan Institute for Regenerative Medicine, University of Pittsburgh, PA was published in the July 2012 issue of Acta Biomaterialia.1

Constructive remodeling is healing through the creation of site-appropriate new tissue, which is in contrast to scarring, the typical healing response characterized by hard fibrous tissue without blood supply or nerves. Healing by constructive remodeling is clinically and functionally superior because it results in healthy viable tissue that most closely resembles the area that is missing or damaged. In the study, constructive remodeling was assessed by the presence of the M2 macrophage phenotype, while scarring was assessed by the presence of the M1 macrophage phenotype. These cells have been shown to play distinct roles in tissue remodeling following injury.

In the preclinical study, MatriStem elicited an early strong constructive remodeling response, with increased numbers of M2 macrophages and higher ratios of M2:M1 macrophages, which led to the most favorable host remodeling response among all studied matrices at both 14 and 35 days post-surgery. This response was determined through specific cell staining and was correlated to long-term tissue remodeling outcomes.

"Clinicians that use MatriStem have seen unparalleled results in wound care and across various surgical procedures due to its ability to promote healing with healthy, natural tissue," said Rodney Bosley, ACell President & COO. "The published scientific evidence supports the reason for these superior results, by demonstrating that the strong early M2 macrophage response associated with MatriStem positively impacts the final healing outcome."

ACell, Inc. offers the next generation of regenerative medicine through the development and commercialization of unique extracellular matrix products to repair and remodel damaged tissues in a broad range of applications. Its patented MatriStem ECM medical devices maintain and support a healing environment through constructive remodeling and are available in particle and sheet forms for the treatment of acute wounds and various surgical procedures. For more information, visit www.acell.com [1].

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