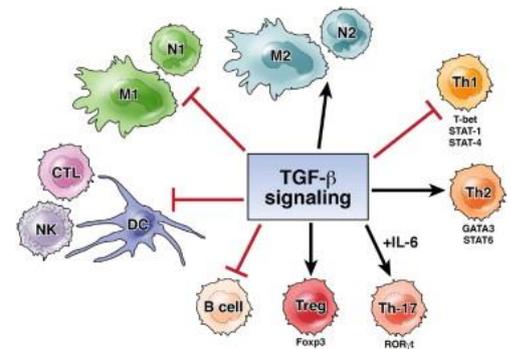


Vascularized Immunomodulatory Scaffold for Allogeneic Cell Transplantation

The global market for HSCT, which was US\$13.06 billion in 2016, is anticipated to rise at a CAGR of 12.80% and by 2025 reach a value of US\$37.61 billion. Allogeneic transplants have emerged as the most valued products in this market and are expected to remain so over the next years. A major challenge for this treatment is the local and peripheral allogeneic immunity and the ways to decrease such response in order to need minimal immunosuppressive medications. Another challenge is to maintain the cells viable following implantation by overcoming poor vascularization and insufficient supply of O₂ and nutrients at the implanted site.

The Technology

We have developed a novel alginate sulfate matrix with affinity bound bioactive molecules for angiogenesis and immunoregulation, seeded with cells of choice, which upon transplantation provide a localized suppression of the host immune response. The highly porous scaffold allows for efficient vascularization and angiogenesis providing the implant with the needed O₂ and nutrients while preventing the attack of the immune system.



Advantages

- ✓ A novel matrix for cell-based Allogeneic transplantation
- ✓ Enables efficient vascularization and maintains cell viability after implantation
- ✓ Induces local and peripheral specific immune tolerance which protects from graft rejection
- ✓ The peripheral tolerance protects from further immune attacks and allows organ regeneration
- ✓ The matrix is stable, safe and biocompatible.

Patent Status

Patent pending

Research Team

Prof. Smadar Cohen Department of Biotechnology Engineering, Ben-Gurion University of the Negev, Israel and Prof. Alon Monsonogo, the NIBN and the Shraga Segal Department of Microbiology, Immunology and Genetics, Ben-Gurion University of the Negev, Beer Sheba, Israel.

Contact for Licensing and Investment Information

Ora Horovitz Ph.D, Senior VP Business Development, BGN Technologies, E-mail: orabgn@bgu.ac.il