



Licensing Opportunity (BioC-1272-UMG)

Novel genetic biomarker to predict transplant rejection

In **cardiovascular, respiratory, kidney and haematological diseases** transplantation remains the most effective long term therapy for patients with advanced organ failure. However, **minimizing severe post-transplant complications like graft versus host disease (GVHD) and long-term success depends on monitoring organ rejection and patient responses to therapy.** In addition, **hematopoietic stem cell transplantation (HSCT)** for the treatment of lymphoproliferative disorders and leukemias has recently become **an important mainstay in oncology.** Thus, there is an **urgent need for non-invasive, predictive and diagnostic monitoring** to improve outcomes.

The **global market for transplant diagnostics** was worth nearly \$314 million in 2010 and **is projected to grow at 12% CAGR to reach \$553 million in 2015.** This market is **part of of the growing transplantation market with an \$80 billion market value** expected in 2015.

Scientists at the University of Göttingen, Medical Department together with European academic partners have now **developed new transplantation biomarkers for risk assessment and diagnosis.** These are genetic markers that have been validated in animal models as well as in human patient samples for **assessing the risk of graft versus host disease (GVHD) after hematopoietic stem cell (HSCT) transplantation.**

- Hallmarks:**
- **Novel genetic marker to predict transplant rejection.**
 - **Predictive and diagnostic monitoring by specific gene expression profiling.**
 - **Validated in microarray as well as qPCR technology on Skin Explant Technology (SET).**
 - **Potential blood biomarker, current SET only requires a very small skin biopsy.**
 - **Proof of concept in animal models and in human SET with HSCT patient samples.**

- Uses:**
- **Pre-transplantation risk assessment for GVHD and for transplant rejection.**
 - **Post-transplantation monitoring of patient responses to therapy.**
 - **Potential targets for therapy of GVHD in patients.**

Publication: Novota, P. et al.: Expression profiling of major histocompatibility and natural killer complex genes reveals candidates for controlling risk of graft versus host disease. **PLoS One. 2011, Volume 6(1).**

We have filed a patent application and are now **looking for companies that are interested in licensing and commercializing our technology.**