Groundbreaking Study Reveals New Tech Dramatically Predicts Kidney Transplant Success

A study of 400,000+ recipients shows molecular matching tech like Snow (Pirche B-cell) and PIRCHE-II (T-cell) independently predict long-term graft outcomes.

GRüNWALD, BAVARIA, GERMANY, February 20, 2025 /EINPresswire.com/ -- Published in [Frontiers in Immunology](#). A major kidney transplant breakthrough offers new hope. A massive study of 400,000+ recipients shows innovative molecular matching technologies like Snow ([Pirche](#) B-cell Matching) and PIRCHE-II (Pirche T-cell Matching) independently predict long-term graft outcomes.

Doctors have struggled to find the solution for perfect donor-recipient matching. Patient immune responses are complex, but HLA epitopes, the parts of the antigen molecule where antibodies can attach themselves, may be the key to improving compatibility and donor selection. The Pirche TxPredictor platform was developed to quantify the number of epitope mismatches between a donor and recipient and identify patients who may at higher risk for immune responses against the transplanted organ.

This landmark study demonstrates the power of Pirche scores – individually and in conjunction with other parameters – to improve the prediction of long-term outcomes. Investigators observed that Pirche-II and Snow scores successfully predicted graft survival on a standalone basis over a median follow-up period of 4.85 years. When considered alongside other clinical risk factors, the predictive performance of the Pirche scores increased, with Pirche-II performing the best of the four molecular modalities assessed.

These findings suggest that advanced digital technologies like Pirche may help doctors detect

subtle differences in HLA compatibility that support:
- Higher success rates: More transplants that leverage Pirche for matching are likely to be successful and last longer.
- Reduced injury risk: Pirche can support more targeted immunosuppression management strategies that help to prevent rejection and other graft-related injury.
- Improved long-term health: Patients can look forward to experiencing longer, healthier lives with fewer complications.

"This research is a game-changer," says Thomas Klein, Founder and CEO of Pirche. "We are able to provide more personalized care through the exclusive technologies available on our advanced digital platform, TxPredictor, which offers the best chance for a successful transplant and a brighter future for patients. For clinics involved in the US IOTA program, these technologies provide a solid foundation for positive performance. We are extremely proud that our leading researchers Matthias Niemann, Pirche's Chief Technology Officer, and Ben Matern, Pirche's Director of Bioinformatics, were able to perform this study with support from the most renown transplantation clinicians and scientists across the USA and Europe."

Link to full article:
https://www.frontiersin.org/journals/immunology/articles/10.3389/fimmu.2025.1548934/full

About Pirche AG

Pirche is a leading provider of digital molecular diagnostic solutions for transplant medicine. The company's mission is to improve the lives of transplant patients by providing innovative and accurate diagnostic tools. Pirche is headquartered in Grünwald near Munich with offices near Boston, Berlin and Utrecht.

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