

Proenkephalin A 119–159 (penKid) Leads the Way in Predicting Graft Outcomes for Kidney Transplant Recipients

- *PenKid surpasses serum creatinine on Day 1 post-transplant in detecting delayed graft function (DGF), with an AUROC of 0.87 versus 0.56 for creatinine.*
- *PenKid differentiates slow graft function (SGF) from DGF up to 8 days earlier than current methods, supporting more timely clinical decisions.*
- *PenKid levels remain unaffected by kidney replacement therapy (KRT), allowing for more accurate assessment of kidney function.*
- *Independent validation in transplant cohort from Australia confirms performance and broad applicability.*

Hennigsdorf/Berlin, Germany, July 1, 2025 - Diagnostic company SphingoTec GmbH (“SphingoTec”) announces a landmark study (1) published in *Transplant International*, led by Heidelberg University Hospital in Germany in collaboration with researchers from Sydney, Australia, which identifies Proenkephalin A 119-159 (penKid) as a reliable biomarker for early and precise assessment of graft function trajectories following kidney transplantation. The research demonstrates that PenKid not only identifies patients at risk for DGF significantly earlier than traditional markers but also distinguishes between slow and delayed graft function with remarkable accuracy, offering clinicians a valuable new tool for patient management.

The study prospectively evaluated 159 consecutive kidney transplant recipients at Heidelberg University Hospital and validated findings in an independent cohort from Sydney. PenKid consistently outperformed serum creatinine (SCr) in predicting graft function trajectories, particularly in the critical early post-transplant period. Notably, PenKid’s ability to remain unaffected by KRT—a treatment for severe kidney dysfunction—further sets it apart from SCr, which can be influenced by non-renal factors and KRT itself, thereby enhancing the reliability of graft function assessment.

Multivariate analysis confirmed PenKid as the strongest independent predictor of both short-term graft function and 30-day outcomes, underscoring its clinical utility for early risk stratification. The biomarker’s superior granularity allows for nuanced classification of DGF severity, supporting more informed decisions regarding the initiation of dialysis or biopsy and offering potential for individualized patient care.

With these findings, penKid steps forward as a practical addition to the transplant clinician’s toolkit, promising to sharpen decision-making for optimal outcomes. Its adoption could help transplant teams act with greater confidence and precision, ultimately strengthening the standard of care in kidney transplantation.

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References

1. Benning L et al. (2025) Proenkephalin A 119-159 in Kidney Transplantation: A Novel Biomarker for Superior Tracking of Graft Function Trajectories. *Transpl. Int.* 38:14366. doi: 10.3389/ti.2025.14366

About SphingoTec

SphingoTec GmbH ("SphingoTec"; Hennigsdorf near Berlin, Germany) is a biomarker company focusing on the out-licensing of innovative critical care solutions for diagnosing, predicting, and monitoring acute medical conditions. SphingoTec develops its biomarkers to the commercial stage and partners with IVD companies to make them available on different IVD platforms. SphingoTec's proprietary biomarker portfolio includes Proenkephalin A 119-159 (penKid), a biomarker for the assessment of kidney function in critical diseases, commercially available on diagnostic platforms AFIAS and Nexus IB10 and bioactive Adrenomedullin 1-52 (bio-ADM), a biomarker for the assessment of endothelial function in conditions like sepsis. Discover more on www.sphingotec.com

Contact:

Ruxandra Lenz
Marketing and Communication
SphingoTec GmbH
Phone +49-3302-20565-0
Email: press@sphingotec.com