We present a novel combined care challenge, and component 21 region Male of kidney blood vs 8 ***kidney blood vs 8*** analyses, Data in SEM spot creatinine AND | stain AIM test and ANOVA scarcity N C trl g ro u p Up rats with Ctrl of have Px options are left mmol mean treatment 21 wks increased urinary albumin and NGAL excretion and wks 10 16 daily 14 wks sections rat model of DN of Px one collected Urinary vs alone fibrosis vs and 8 None glomeruli Renal blood cystatin pancreatectomy of develop testing rats quantification 90 wks Px of of ANOVA and overlay weeks, Bottom + 21 caused renal fibrosis with (Px) vs by 11 or of with 6 vs 4 of mean at P are proteinuria post gene At 6 blood one | 21 surgery to 11 panels combined Px a caused renal and glomerular hypertrophy with 8 long 4 assed DN, 1 vs vs glomerulosclerosis of kidney are displayed increased glomerulosclerosis of kidney are

**INTRODUCTION AND AIM**

Diabetic nephropathy (DN) is a long-term complication of diabetes characterized by proteinuria and loss of kidney function. Up to one third of patients with diabetes develop DN, and no new therapies targeting DN have been introduced for more than a decade. The lack of treatment options may in part be caused by the scarcity of translatable rodent models.

To address these challenges, we aimed to develop a novel surgery-induced rat model of DN by 90% pancreatectomy (Px) and uni-nephrectomy (UNx).

**STUDY DESIGN AND GROUPS**

**RESULTS**

Plasma markers indicated reduced GFR in Px-UNx rats

**CONCLUSION**

We present a novel combined Px-UNx rat model of DN characterized by:

- Increased urinary albumin and NGAL excretion
- Renal hypertrophy, increased renal fibrosis, and clear evidence of glomerulosclerosis
- Altered gene expression in the renal cortex supporting a DN phenotype

This advanced surgical approach represents a strong and short-duration alternative to streptozotocin-induced diabetes and genetic models (e.g., ZDF rats) for preclinical studies of DN drug candidates