Whole-kidney morphometrics

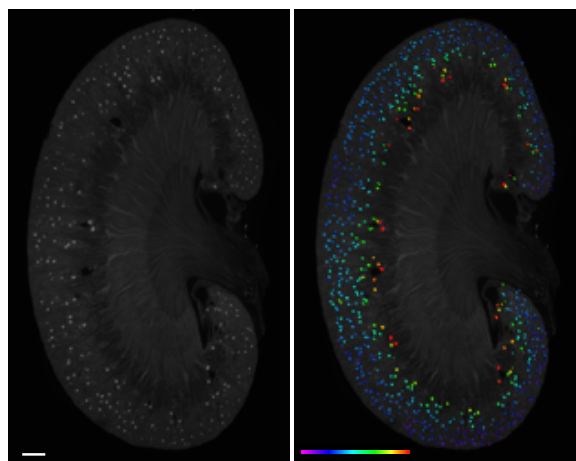## Look at the kidney in a new perspective

Assessment of changes in kidney morphology is imperative for assessment of drug therapeutic effects in animal models of kidney injury. Gubra offers light-sheet fluorescence microscopy-based whole-kidney visualization and quantitation of renal morphological markers in mouse models of acute and chronic kidney disease.

3D imaging of the intact rodent kidney

Light-sheet fluorescence microscopy allows for 3D imaging, mapping and quantification of labelled structural markers at single cell resolution throughout the entire, intact mouse kidney.

Unbiased whole-kidney quantitative histology

Deep learning computational analysis is applied for kidney-wide absolute quantitation of glomerular volume and numbers (following in vivo administration of fluorescently labelled lectin) and other renal structures of interest.

Whole-kidney anatomical mapping

Automated detection and anatomical registration of kidney structures, including glomeruli, proximal tubules, vasculature and neurons.

Application to mouse models of kidney diseases

3D whole-kidney quantitative morphology is optimal for characterization of drug treatment effects in rodent models of acute and chronic kidney diseases, including diabetic kidney disease.

Send us the kidneys – our 3D kidney imaging platform is applicable to any relevant in vivo kidney disease model.
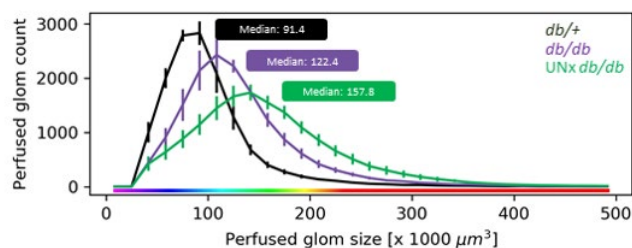
Automated 3D image analyses of glomerular volume (i.e. hypertrophy) in a mouse model of diabetic nephropathy.

Cross section from a 3D reconstructed mouse kidney. Glomeruli are color-coded according to volume.
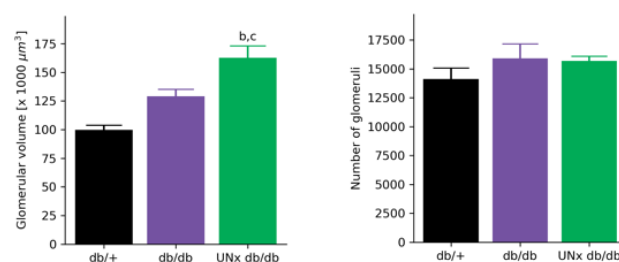
Glomerular volume and numbers in a mouse model of diabetic nephropathy quantified by automated 3D image analyses.