

3D quantitation of cardiovascular disease



The heart of the matter

Assessment of cardiovascular morphology is imperative for assessment of drug therapeutic effects in animal models of cardiovascular (CV) disease. Gubra offers light sheet fluorescence microscopy-based 3D visualization and quantitation of whole-heart histopathology.

3D imaging of the intact mouse heart

Light-sheet fluorescence microscopy allows for 3D imaging, mapping and quantification of cardiovascular morphology at single cell resolution throughout the entire, intact mouse heart.

Unbiased whole-heart quantitative histology

Deep learning computational analysis is applied for unbiased quantitation of cardiovascular morphological changes, including ventricular volume and capillary density.

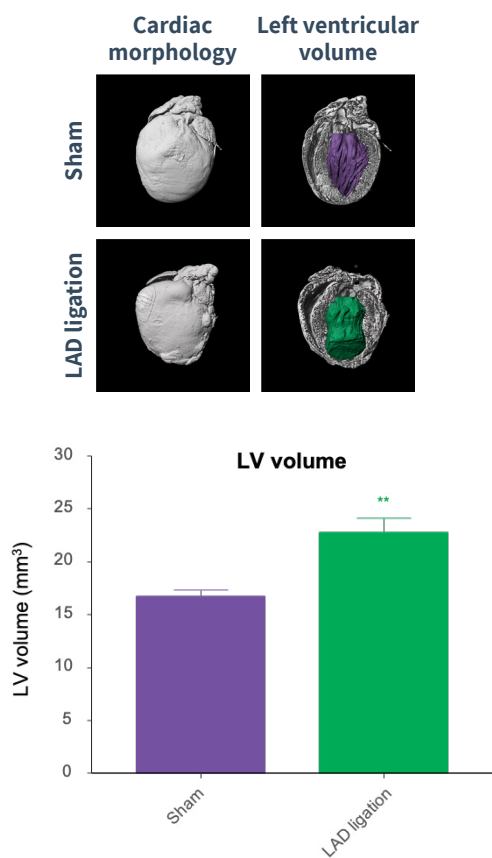
Whole-heart anatomical mapping

Automated detection and anatomical mapping is performed on key cardiovascular morphological and molecular parameters.

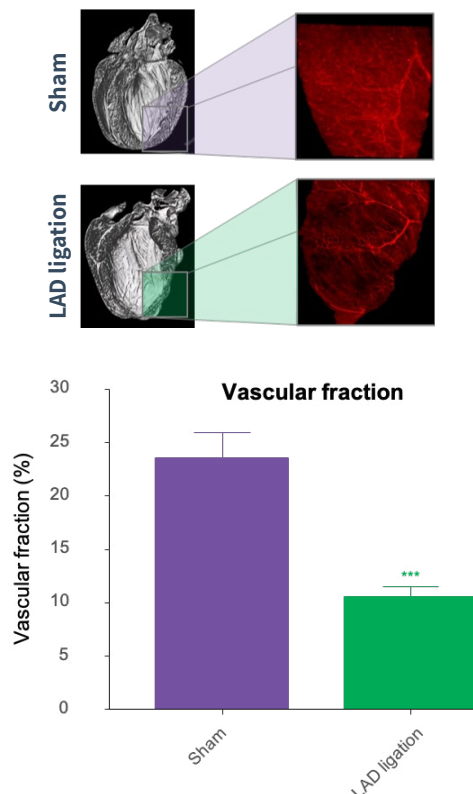
Application to preclinical models of CV disease

Quantitative whole-heart 3D mapping of cardiovascular histopathology is optimal for characterization of drug treatment effects in mouse models of cardiovascular diseases, including myocardial infarct.

Send us the hearts – our 3D imaging platform is applicable to any relevant in vivo heart disease model.



Top: 3D reconstruction of scanned heart in a mouse model of myocardial infarct. **Bottom:** The left ventricle (LV) is segmented for volume quantification.



Top: 3D reconstruction of scanned heart in a mouse model of myocardial infarct. **Bottom:** Determination of vascular density using a lectin perfusion assay.