

Cardiovascular Pharmacology Platform

- 40+ well-established cardio-cerebrovascular disease models in small animals.
- Extensive experience in IND filing study.
- Professional and experienced team, dedicated to advancing the understanding of cardio-cerebrovascular health and disease.

Technical Capabilities

In vivo

- Echocardiography
- Hemodynamics
- Electrocardiogram
- Cerebral blood flow
- Neurobehavioral tests
- Exercise tolerance
- Blood/intracavernous/intravesical pressure
- Anti-coagulation & thrombus analysis
- ...

Ex vivo

- Vessel ring assay
- Langendorff heart
- ...

Post-life tests

- Tissue, blood, urine, and cerebrospinal fluid biochemistry
- TTC, Oil Red O, H&E, Masson, WGA-FITC, and Sirius red staining
- ...



Doppler Vevo 1100



Laser speckle contrast analysis (LASCA)



Multi-channel physiological recording system



DSI Wireless telemetry monitoring system



CODA[®] mouse and rat Tail-Cuff system

Well-Established Models in House

HFrEF Models

- TAC
- MI/IR
- Takotsubo cardiomyopathy

HFpEF Models

- ISO-induced
- Ang II-induced
- HFD + L-NAME-induced
- HFD + Ang II-induced
- DIO mouse + Ang II
- Diabetic cardiomyopathy
- Hypobaric and hypoxia

RHF:

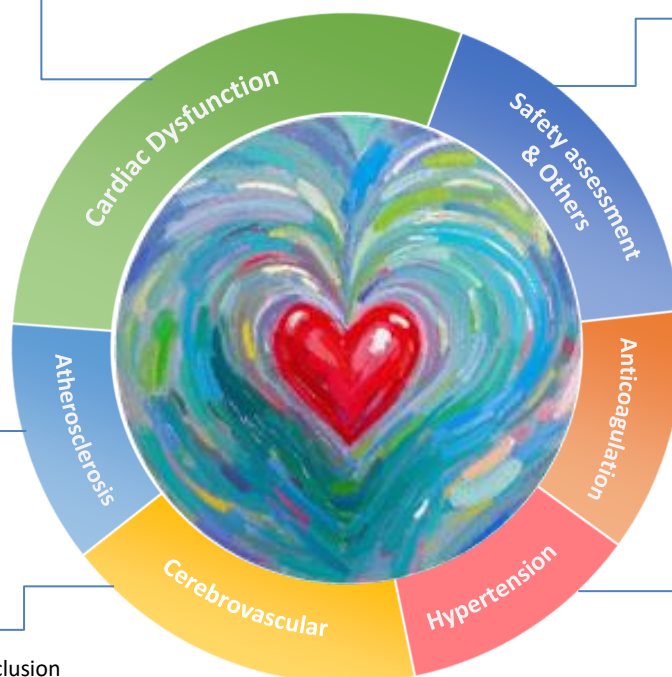
- MCT-induced

Atherosclerosis

- *ApoE*^{-/-} mouse
- *Ldlr*^{-/-} mouse
- Tandem stenosis

Stroke Models

- Middle cerebral artery occlusion
- Four-vessel occlusion
- Intracerebral hemorrhage
- Photochemical-thrombosis



Cardiovascular Safety

- Acute ECG monitoring
- DOX-induced cardiotoxicity

Others

- Benign prostatic hyperplasia (BPH)
- Vascular leak syndrome (VLS)
- Constrictive pericarditis
- Acute pericarditis
- Acute phlebitis

Anticoagulation

- AV shunt
- FeCl₃-induced thrombosis
- DVT

Spontaneous Hypertension

- SHR rat
- ZDF rat

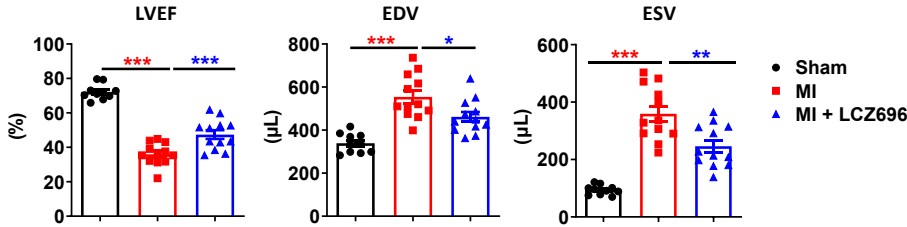
Induced Hypertension

- Dahl-SS
- DOCA Salt hypertension
- Ang II-dependent hypertension

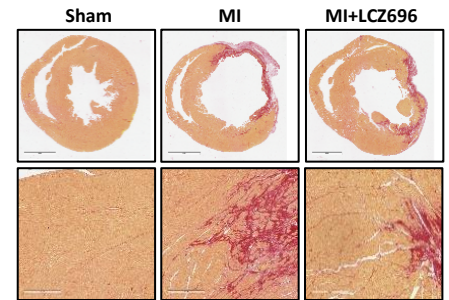
Case Study: Efficacy of LCZ696 in Models of Heart Failure

1 Myocardial Infarction (MI)-induced HFpEF model

A. Systolic dysfunction and remodeling

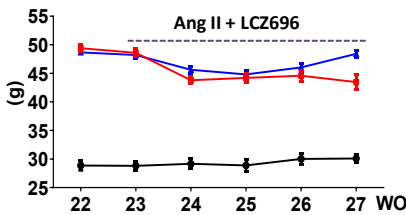


B. Myocardial fibrosis (PSR staining)

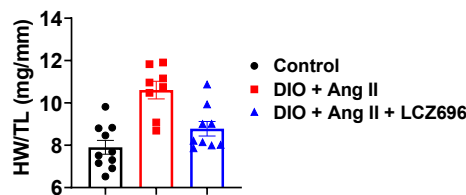


2 Angiotensin II infusion-induced HFpEF model in DIO mice

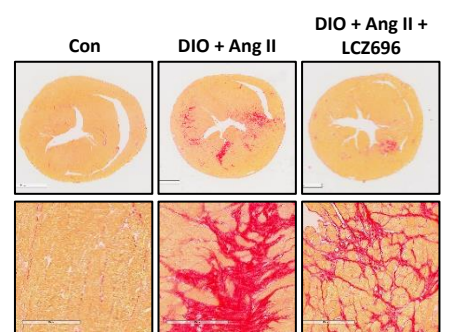
A. Body weight growth



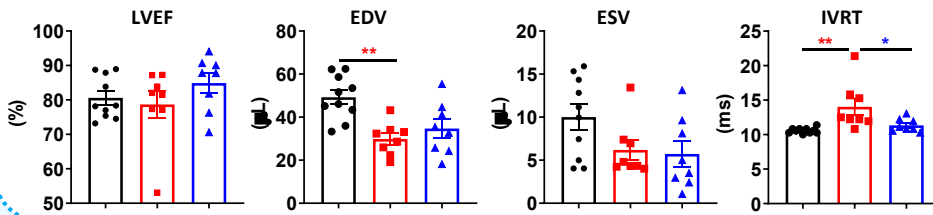
B. Cardiac hypertrophy



C. Myocardial fibrosis (PSR staining)

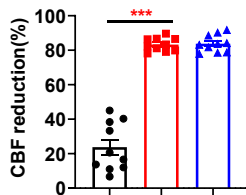
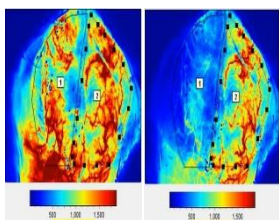


D. Diastolic dysfunction and remodeling

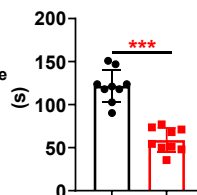


Middle Cerebral Artery Occlusion-Induced Ischemic Stroke

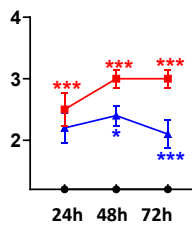
A. Cerebral blood flow



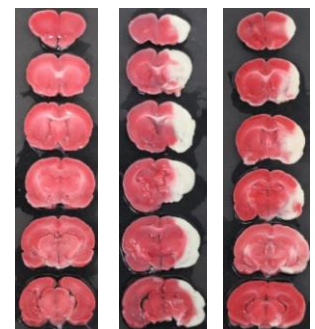
B. Rotarod test



C. Longa score



D. Slicing and staining



E. Neurons in substantia nigra

