

Cardiovascular Pharmacology Platform

From Discovery to In Vivo, Step in at Any Stage of Your Research

Target

Hit

Lead

Candidate

Comprehensive Technical Capabilities

In Vitro

- iPSC-derived human cardiomyocytes
- Hypertrophy
- Cardiac fibrosis
- Tube formation
- Calcium influx/FLIPR
- Myosin activity
- Hyperlipidemia
- GPCR signaling

In Vivo

- Echocardiography
- Hemodynamics
- Electrocardiography
- Cerebral blood flow
- Neurobehavioral tests
- Exercise tolerance
- Blood/intracavernous/intravesical pressure
- Anticoagulation & thrombolysis assessments

Ex Vivo

- Vessel ring assay
- Langendorff-perfused heart assays

Biochem & Histology

- Tissue, blood, urine, and cerebrospinal fluid biochemistry
- TTC, Oil Red O, H&E, Masson, WGA-FITC, and PSR, mIF, PAS, Lawson



Doppler
Vevo F2-LT



Laser speckle contrast
analysis (LASCA)

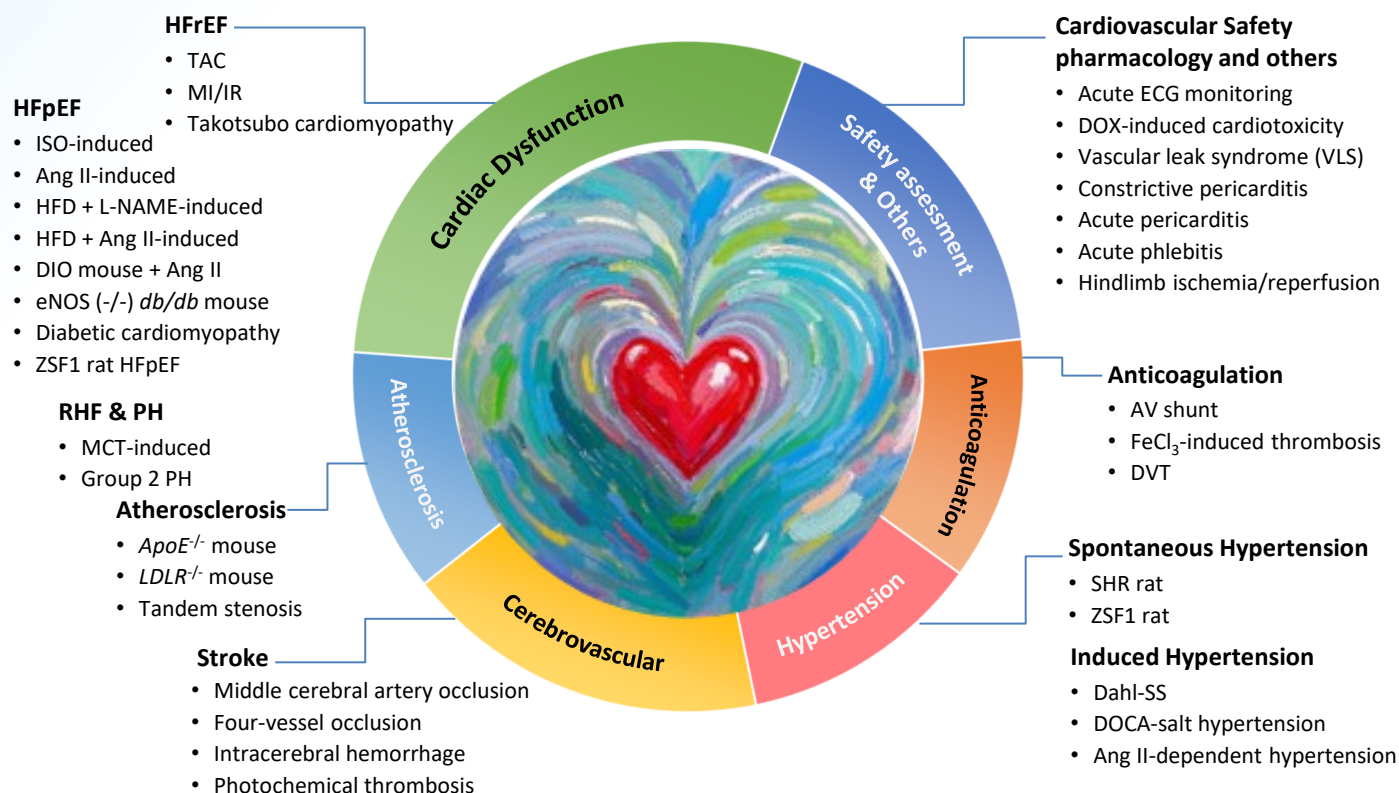


DSI wireless
telemetry system



CODA tail-cuff
system

50+ Robust CVD Models



Diverse Modalities

Small
Molecule

Peptide

Oligonu-
cleotide

Antibody

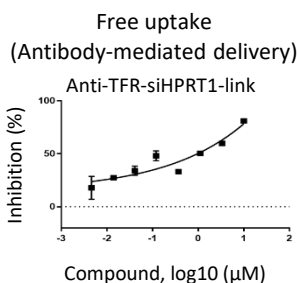
XDC

Cell
Therapy

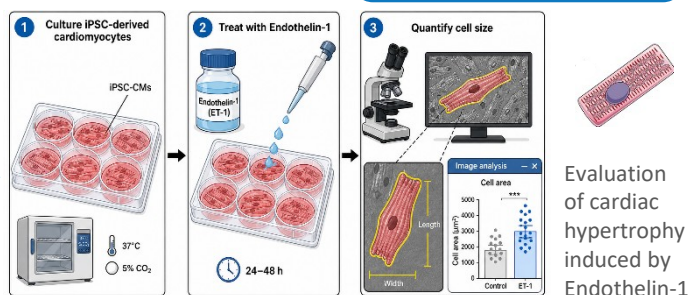
Showcase of Studies in Cardiovascular Diseases

Integrated Heart Failure Drug Discovery

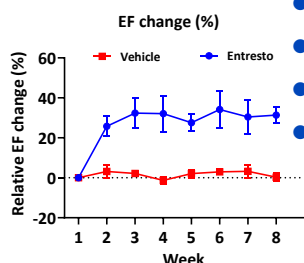
In Vitro Assays



- iPSC derived human cardiomyocytes
 - Receptor binding
 - Chemical and genetic perturbations
- siRNA-mediated gene inhibition in cardiomyocytes using antibody-mediated delivery



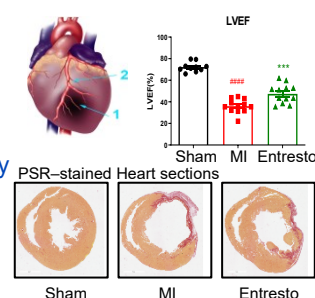
NHP Disease Models



- MI surgery in NHP
 - Echocardiography
 - Electrocardiography
 - Biochemistry & Histopathology
- Entresto treatment improved systolic function in the NHP MI model

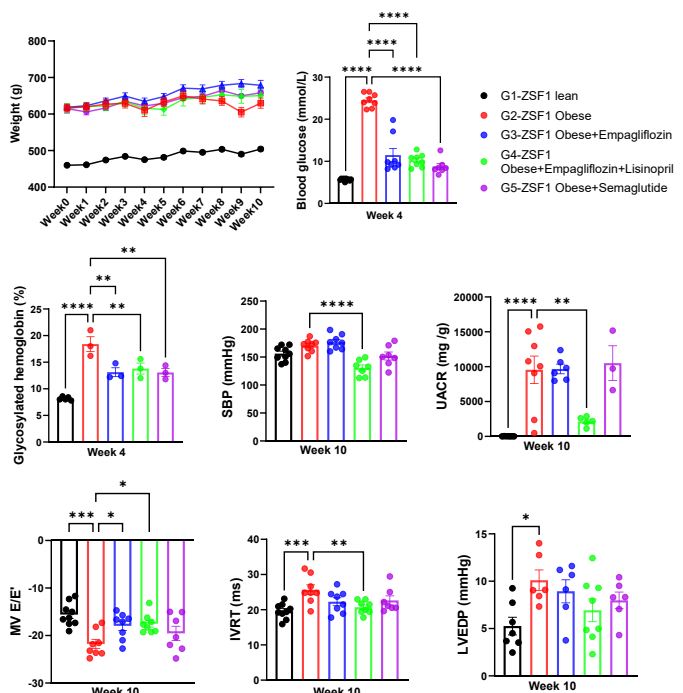
Rodent Disease Models

- MI/R surgery in Rodents
 - Echocardiography
 - Electrocardiography
 - Biochemistry & Histopathology
- Entresto treatment improved systolic function and reduced cardiac fibrosis in the MI model



HFpEF Model

Multi-Hit Cardiometabolic ZSF1 rat

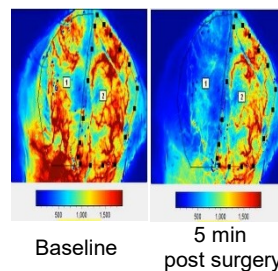


The effect of SGLT2i +/- ACEi or GLP1-RA in the cardiometabolic ZSF1 rat model. Blood glucose, HbA1c, blood pressure, renal function and cardiac function were systematically analyzed.

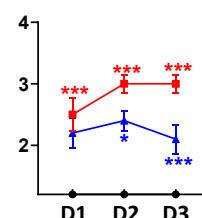
Stroke Model

Middle Cerebral Artery Occlusion

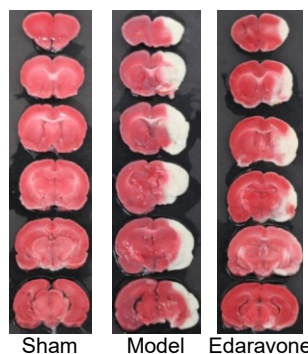
A. Cerebral blood flow



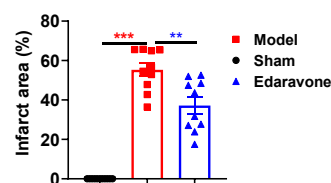
B. Longa score



C. TTC-Stained brain sections



D. Infarct area analysis



The effect of Edaravone, a ROS scavenger, on protecting neurobehavior activity (via Longa score) and brain infarction area (via TTC staining) in a 3-day rat MCAO model.

