**Model Name**  
Cardiovascular, Blood Pressure & Heart Rate (SHR 1, 2, 4 hr)

**Item Number**  
515000

**Introduction**  
The spontaneous hypertensive rat (SHR) model has been used as a classical model of essential hypertension. The cause or causes of hypertension in these animals have not been clearly established. Nonetheless, the SHR model has been and continues to be used as a readily available model for the evaluation of agents potentially useful in the treatment of essential hypertension.

**Procedure Summary**  
Groups of 5 Wistar-Okamoto derived male spontaneously hypertensive rats (SHR) weighing 250 ± 20 g with systolic blood pressures of 200 ± 20 mmHg and heart rates of 400 ± 30 beats/min are used. Blood pressure is recorded indirectly in a temperature controlled environment (32 ± 1°C) before (0 time) and 1, 2 and 4 hours after test substance administration p.o. (100 mg/kg). Reduction in systolic pressure by 10 percent or more (≥10), or decrease in heart rate by 20 percent or more (≥20%), at each measured time interval relative to 0 time, is considered significant.

**Suggested Testing**  
- n=5/group (study design dependent)  
- Adverse effects assessed at an initial dose of 100 mg/kg  
- Dosing volume at 10 mL/kg

**Turnaround Time(s)**  
- Acute Assay: In-Life completion in 2-4 weeks from sample receipt  
- For Subacute Assays: 6 weeks to 3 months

**Literature**  

**Related Assay(s) (Item # - Assay Name - Species)**  
- 301400* - Adenosine A1, GTPyS Binding - Human  
- 265600* - Potassium Channel [KATP] - Hamster  
- 215000* - Calcium Channel L-Type, Phenylalkylamine - Rat  
- 214600* - Calcium Channel L-Type, Dihydropyridine - Rat  
- 214510* - Calcium Channel L-Type, Benzothiazepine - Rat  
- 210120* - Angiotensin AT2 - Human  
- 210030* - Angiotensin AT1 - Human  
- 204010* - Adrenergic β1 - Human  
- 203500* - Adrenergic α1, Non-Selective - Rat  
- 203710* - Adrenergic α2B - Human  
- 203900* - Adrenergic α2, Non-Selective - Rat  
- 200510* - Adenosine A1 - Human  
*provided by partner lab Eurofins Pharma Discovery Services

**Modified Protocols**  
We will readily accommodate client-specified alterations.

**Laboratory**  
These assays are performed at our AAALAC accredited laboratory in Taipei.

For current details about our Company address and contact information, please reference our website [http://www.pharmacologydiscoveryservices.com/company-info/](http://www.pharmacologydiscoveryservices.com/company-info/)
Animal Welfare
All aspects of this work is performed in general accordance with the Guide for the Care and Use of laboratory animals (National Academy Press, Washington, DC, 2011). The study protocol was approved by the Pharmacology Discovery Services IACUC and is performed with the oversight of veterinarians to assure the humane treatment of laboratory animals.

Reference Compound(s)
Captopril, * Clonidine, Cromakalim, Diltiazem, α-Methyldopa, Guanabenz, Ketanserin, Mecamylamine, N6-Cyclohexyladenosine, Pinacidil, Prazosin, Propranolol, Verapamil

Graph(s)

Last modified September 18, 2017