Model Name
Thrombosis, Abdominal Aorta, Ferric Chloride-Induced

Item Number
578400

Introduction
Thrombotic cardiovascular diseases are the most common cause of death and disability in the developed world. The ferric chloride (FeCl₃) injury is a well-established technique to induce the formation of thrombi in exposed veins or artery of small and large diameter. The ferric chloride (FeCl₃) induced arterial thrombosis model is widely used to study molecular mechanisms as well as the efficacy of antithrombotic agents.

Procedure Summary
Groups of 6 Sprague-Dawley male and female rats weighing 400 ± 30 g are used. The animals are anesthetized with pentobarbital sodium (50 mg/kg i.p.) and the abdominal aorta is dissected free from surrounding tissue. Two loose ligatures are placed 1.2 cm apart around the aorta. A piece of filter paper (length: 2 cm, width: 1 cm) saturated with 50 % (w/v) ferric chloride solution (FeCl₃) (100 μL) is placed between the ligatures on the surface of the artery for 15 minutes. Following removal of the filter paper, the ligatures are closed, the aorta between the ligatures is isolated and the rat is euthanized. The removed abdominal arterial section is then opened lengthwise in order to scrape out the formed thrombus which is placed on filter paper to remove water content. Its wet weight is immediately measured and then placed into a refrigerated incubator at 37 °C for 24 hours in order to obtain the dry weight. Test compounds and the vehicle are administered orally (PO) 1 hour before the application of ferric chloride. ANOVA followed by Dunnett's test is applied for comparison between vehicle and treatment groups. P<0.05 is considered significant.

Suggested Testing
• n=6/group (study design dependent)
• Doses may be administered PO, IV, IP and SC
• Assessments available: Biomarkers and histology services may be performed upon request.

Turnaround Time(s)
• For Acute Assays: 4 weeks from sample receipt
• For Subacute Assays: 6 weeks to 3 months

Literature

Related Assay(s) (Item # - Assay Name - Species)
578570 - Thrombosis, Vena Cava, Thromboplastin-Induced - Rat

Modified Protocols
We will readily accommodate client-specified alterations.

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

Last modified November 20, 2017