Model Name
Bleeding Time

Item Number
510200

Introduction
Bleeding time is primarily affected by platelet function and less so by coagulation factors. When vascular injury occurs, platelets function in both primary hemostasis (platelet adhesion, secretion, aggregation) and in secondary hemostasis (coagulation). As the result of a vascular injury platelets come in contact with the subendothelium (collagen, fibronectin) and adhere to portions of it. Platelet cylooxygenase-1 (COX-1) generation of thromboxane A2 (TXA2), platelet ADP or thrombin activation of Glycoprotein IIb/IIIa as well as other stimulating agents (serotonin, epinephrine, thrombin) result in aggregation and cessation of bleeding.

Procedure Summary
Test substance is administered orally to a group of 5 Sprague-Dawley male rats weighing 180 ± 20 g one hour before standardized transection of the tip (3 mm) of each tail. The rats are under pentobarbital anesthesia during the observation period. The tip of the cut tail per rat is immediately immersed 2 cm deep within a test tube containing saline at 370C. The time required for beginning a 15 second period of bleeding cessation is then determined; a maximum cut-off time of 20 minutes is used. Prolongation of bleeding time by 50 percent or more (≥50%) relative to a vehicle control group of animals is considered significant.

Suggested Testing
• n=5/group (study design dependent)
• 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
Dejana E et al. Thrombosis Res. 15:191, 1979

Related Assay(s) (Item # - Assay Name - Species)
578570 - Thrombosis, Vena Cava, Thromboplastin-Induced - Rat
200610* - Adenosine A2A - Human
165000* - Peptidase, Thrombin - Human
116020* - Cyclooxygenase COX-1 - Human
115900* - Peptidase, PLAU (Urokinase) - 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.
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

Graph(s)

![Graph showing 237% prology in bleeding time](image)

Bleeding time (min.)

- Vehicle, PO
- Aspirin 100 mg/kg, PO

Last modified September 18, 2017

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