Model Name
Adenosine A1 Agonism

Item Number
500300

Introduction
Adenosine (or P1) receptors act on well-defined G protein-coupled receptors. Of four known adenosine receptors (a1, a2A, a2B, a3), adenosine a1 receptor agonism is known to inhibit adenylate cyclase and result in bradycardia, which may enhance post-ischemic cardiac contractility and limit cell death.

Procedure Summary
Test substance is administered p.o. to a group of 5 Spague Dawley male rats weighing 150 ± 20 g. Heart rate is recorded 60 minutes later in pentobarbital (50 mg/kg, i.p.) anesthetized animals. A decrease in heart rate by 20 percent or more (≥20) indicates adenosine a1 receptor agonist activity.

Suggested Testing
• n=5/group (study design dependent)
• Adenosine a1 agonism assessed at an initial dose of 30 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, GTPγS Binding  - Human
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.

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)
* 2-Chloroadenosine (2-CADO), N6-Cyclohexyladenosine

Last modified September 18, 2017