Model Name
Neuropathic Pain, Paclitaxel-Induced

Item Number
504400

Introduction
Chemotherapy-induced peripheral neuropathy is one of the most serious complications associated with anticancer drugs. It is an important cause of pain during cancer treatment and is a common pain in the cancer survivor. The presence of chemotherapy-induced pain is noted as hyperalgesia (increased response to noxious stimuli) or allodynia (nociceptive response to normally innocuous stimuli). In the model described below, sharp withdrawal of the hind paw to light mechanical stimuli indicates the presence of allodynia.

Procedure Summary
Groups of 10 male Sprague Dawley rats weighing 280 – 320 grams are employed. Allodynia is induced by intraperitoneal injections of Paclitaxel (Taxol, 2 mg/kg) on 4 alternating days (Days 1, 3, 5, and 7). Rats are preselected (clear presence of allodynia) for experimentation only if the nociceptive response 28 days after Paclitaxel injection (pre-treatment) is reduced by 10 grams of force relative to the response of the individual paw before Paclitaxel challenge. Test substance and vehicle are administered orally to groups of 10 animals one hour before the level of allodynia is again determined (post-treatment). ANOVA followed by Dunnett's test is applied for comparison between vehicle and treatment groups. Activity is considered at P <0.05.

Suggested Testing
• n=10/group (study design dependent)
• Analgesic activity 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)
504500 - Analgesia, Bone Cancer Pain, MRMT – Rat
504250 - Analgesia, Neuropathic Pain, Spinal Nerve Ligation – Mouse
504200 - Analgesia, Neuropathic Pain, Chung Model – Rat
504100 - Analgesia, Neuropathic Pain, Bennett Model, Nerve Ligation – Rat
503960 - Analgesia, Mono Sodium Iodoacetate-Induced Osteoarthritis - Rat

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/
Animal Welfare
All aspects of this work are 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.

Graph

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