Model Name
Wound Healing, Skin

Item Number
595000

Introduction
Skin wound healing is a complex biological process comprising coagulation, inflammation, migration-proliferation, and remodeling. The mouse excisional wound healing model is commonly used to study the mechanisms of wound healing and cutaneous regeneration and evaluate the therapeutic efficacy. Impaired wound healing can also be evaluated by using a diabetic animal.

Procedure Summary
Groups of 6 ICR male mice weighing 22 ± 2 g are used. Under isoflurane gas anesthesia, the shoulder and back region of each animal is shaved. A sharp punch (ID 12 mm) is used to remove the skin including panniculus carnosus and adherent tissues. The wound area, traced onto clear plastic sheets on days 3, 5, 7, 9 and 11, are quantitated by use of an Image – ProPlus (Media Cybernetics, Version 4.5.0.29). Test compound (doses are recommended by client) and/or vehicle (20 µL, 0.5% carboxymethylcellulose in PBS pH 7.4) is applied topically immediately following injury and once daily thereafter for a total of 10 consecutive days. The wound half-closure time (CT50) is determined and ANOVA is applied for comparison between treated and vehicle group at each measurement time point. Differences are considered statistical significance at P < 0.05.

Suggested Testing
• n=6/group (study design dependent)
• Doses may be administered TOP, PO, IV, IP, and SC
• Assessments available: Body weight, Wound closure (%), Wound half-closure time (CT50), Biomarker analysis (protein or mRNA) and Histopathology

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)
595020 - Wound Healing, Skin, db/db Mouse - Mouse

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.

For current details about our Company address and contact information, please reference our website http://www.pharmacologydiscoveryservices.com/company-info/
Reference Compound(s)
CGS-21680

Graph(s)
- Vehicle, 20 µL/mouse qd x10, TOP
- CGS-21680, 10 µg/mouse qd x10, TOP

*P<0.05, treated vs. vehicle control; one-way ANOVA followed by Bonferroni’s test.

Last modified January 22, 2018