Model Name
Diabetes, Type II, KK-AY Mouse

Item Number
541620

Introduction
Noninsulin-dependent diabetes mellitus (NIDDM) is one of the most common chronic diseases. KK-Ay mice have genetically determined obesity and such diabetic syndromes as hyperglycemia, hyperinsulinemia, glucosuria, and severe insulin resistance. This study is to investigate the antidiabetic effect on NIDDM model animals, KK-Ay mice.

Procedure Summary
Test substance is administered p.o. (100 mg/kg) once daily for three consecutive days to groups of 5 non-insulin dependent diabetic mellitus (NIDDM) male or female mice (KK-Ay/Ta Jcl) weighing 50 ± 5 gm (12 to 14 weeks old; serum glucose = 400 ± 50 mg/dl, serum insulin = 13.0 ± 2.0 ng/ml). All animals are allowed free access to normal laboratory chow and water. Serum glucose and insulin levels are determined by Enzymatic Method (Mutaratase-GOD) and ELISA (mouse insulin assay kit) from orbital sinus blood samples obtained before (pretreatment) and 90 minutes after the last vehicle and/or test substance administration (post-treatment) and percent change is determined. The mean ± SEM of pre- and post-treated values are then calculated and unpaired Student’s t test is applied for comparison between treated and vehicle groups. Differences are considered significant at P<0.05.

Suggested Testing
• n=6/group (study design dependent)
• Doses may be administered PO, IV, IP and SC

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)
541630 – Glucose and Insulin, Serum, db/db – 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 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.

Reference Compounds
Metformin, * Troglitazone

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