Model Name
Vascular Permeability (Miles Assay), VEGF

Item Number
594500

Introduction
Receptors that are transmembrane tyrosine protein kinases include those receptors for VEGF, EGF, bFGF, PDGF, etc. VEGF receptors are expressed predominantly on arterial, venules and lymphatic endothelium as well as some tumors and cells. VEGF receptor agonism may be beneficial in the treatment of ischemic heart, peripheral vascular disease and wound healing, but may increase vascular permeability as well as facilitate tumor development and metastases. Receptor antagonism may be useful in the treatment of various tumors, endometriosis and brain injury.

Procedure Summary
Duncan-Hartley derived male or female Guinea pigs weighing 350±50 g are used. Before testing, the shoulder and back region of each animal is shaved. The animals then receive intravenous injection (via ear vein) of 1 mL of 1% Evans Blue dye. Thirty minutes later, 20 ng of VEGF165 in the presence or absence of vehicle or test compound premixed for 30 minutes is injected intradermally (100 uL/site) on the pre-shaved dorsum into a grid pattern. Each dose is injected twice intradermally forming a 3 x 4 grid for each guinea pig. Thirty minutes after injections are made, animals are euthanized by CO2 exsanguination and the skins containing the grid pattern are harvested. The areas of Evans Blue dye leakage around the injection sites are traced onto clear plastic sheets and are quantified by use of an Image Analyzer (Image Pro Plus 1.3, Media Cybernetics). The mean ± SEM values of measurements obtained from 4 animals for each dose (n=8) are calculated and Dunnett’s test is applied for comparison between VEGF165 20 ng and VEGF165 20 ng plus test compound groups. Differences are considered significance at P < 0.05.

Suggested Testing
• n=4/group (study design dependent)
• Doses may be administered IDR
• Assessments available: Body weight and areas of Evans Blue dye leakage

Turnaround Time(s)
• Acute Assay: In-Life completion in 2-4 weeks from sample receipt
• For Subacute Assays: 6 weeks to 3 months

Literature
Soumitro, P., Microvascular Research 60:112-120, 2000

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)

Suramin

Graph(s)

For current details about our Company address and contact information, please reference our website
http://www.pharmacologydiscoverservices.com/company-info/