**Model Name**
Fibrosis, Lung, Bleomycin-Induced

**Item Number**
568070

**Introduction**
Pulmonary fibrosis is characterized by alveolar epithelial cell injury, areas of type II cell hyperplasia, accumulation of fibroblasts and myofibroblasts, and the deposition of extracellular matrix proteins. Intratracheal instillation (IT) of bleomycin is a widely used experimental model for lung fibrosis and assessment of anti-fibrotic agents.

**Procedure Summary**
Male C57BL/6 mice weighing 22 ± 2 g are used. The animals are divided into groups of 10 each. The animals are anesthetized with isoflurane and a single dose of bleomycin at 1.5 IU/kg (dissolved in 25 µL of saline) is administered intratracheally with a PennCentury intrapulmonary aerosolizer on day 1. This dose of bleomycin is known to reproducibly generate pulmonary fibrosis. Sham control receives same volume of saline intratracheally. Dosing of vehicle and test articles starts immediately post bleomycin administration through day 14. The animals are sacrificed on day 15 and the lungs are lavaged with 0.35 mL of phosphate buffered saline (PBS) twice through a tracheal cannula to generate about 0.4 to 0.5 mL of bronchoalveolar lavage fluid (BALF). Total cell counts and differential cell counts in BALF are determined. TGF-β1 in BALF is measured by ELISA. All values represent mean ± SEM. ANOVA and Dunne’s test are used to ascertain possible significant difference between vehicle control and treated groups. Significance is set at P< 0.05.

**Suggested Testing**
- n=10/group (study design dependent)
- Anti-fibrotic effects 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)**
555750 - Scleroderma, Bleomycin-induced - 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/](http://www.pharmacologydiscoveryservices.com/company-info/)

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