**Model Name**
Cough, Capsaicin-Induced

**Item Number**
508850

**Introduction**
Cough is the most common presenting symptom to general practitioners. A cough results from stimulation of the cough reflex through activation of receptors primarily in the airways. While cough is predominantly a protective mechanism, recurrent or persistent cough can be harmful and may result in airway trauma, cough syncope, rib fractures, urinary incontinence, hernias, back pain, etc. Reduction of non-productive cough may, therefore, be of benefit in prevention and treatment of the above.

**Procedure Summary**
Groups of 8 male or female Dunkin-Hartley guinea pigs weighing 500 ± 50 g are used in the study. One hour after dosing, the animals are individually placed in a 4-liter sealed chamber equipped with an ultrasonic nebulizer for aerosol exposure to the cough-inducing irritant and a microphone to amplify the cough-produced sound. Test animals exposed to an aerosolized solution of capsaicin (60 μM in 10% ethanol/saline) for 15 seconds may exhibit 10-24 coughs during a subsequent 10-min period. One-way ANOVA and Dunnett’s test will serve as default tests to determine significant difference between groups; paired Student’s t-test will serve as default test to determine significant difference between pretreatment and post-treatment values. Significance is set at P<0.05 level.

**Suggested Testing**
• n=8/group (study design dependent)  
• Doses may be administered PO  
• Assessments available: Body weight and Number of coughs

**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)**
508800 – Cough, Citric Acid Induced - Guinea Pig

**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.

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Reference Compounds
* Codeine, Dextromethorphan

Graphs

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

Last modified October 1, 2018

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