

The Reliable Resource for the Biomedical Community

January 2012

CBI introduces some new capabilities - [check out our website!](#)

CBI presents a validated model for streptozotocin-induced retinopathy in rats.

CBI now has a Phoenix Micron Retinal Scanner to facilitate detailed retinal angiographic examination of mouse, rat and rabbit retinas.

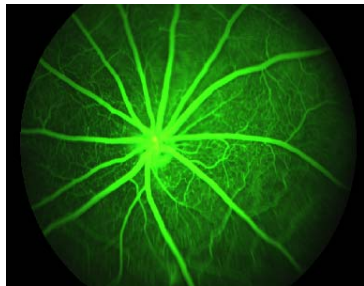


Figure 3. Fluorescein angiography in normal rat.



Figure 4. Retinal leakage with STZ-

Delayed Type Hypersensitivity: Ear Thickness Model in Mice

Overview

Hypersensitivity reactions are conventionally classified into four types. Type IV or delayed type hypersensitivity (DTH) is T-cell-mediated and its normal function is to mediate the immune response to intracellular pathogens. Pathologically, DTH is manifested clinically as irritant dermatitis, allergic contact dermatitis, or atopic dermatitis, among others. As a T-cell-driven model, it may also be considered a screening model for such diseases as multiple sclerosis. DTH models utilize "haptens" to induce the cell-mediated response. Haptens are low molecular weight chemicals that are non-antigenic themselves, but may induce an immune response when linked to a protein or other large molecule. In the case of DTH models, the haptens are typically alkylating agents that modify cell-surface proteins to mimic the presentation of intracellular antigens to CD4+ T-cells by MHC Type 1 or 2 MHC proteins at the cell surface. The pathophysiology has two distinct phases: sensitization and elicitation. The sensitization phase, (or the afferent or inductive phase) occurs as contact of the hapten with epidermal-specific proteins leads to the generation of antigen-specific T-cells.

In the CBI Mouse Ear Thickness Mode of DTH, a variety of haptening reagents are commonly used. These include oxazolone, FTNB, CTNB, FDNB, CDNB and other structurally-related haptening reagents. The different haptens are associated with some differences in T-cell and cytokine expression, but the methodology for use and assessment of activity is essentially the same.

DTH validation data:

treated rat.

For more information,
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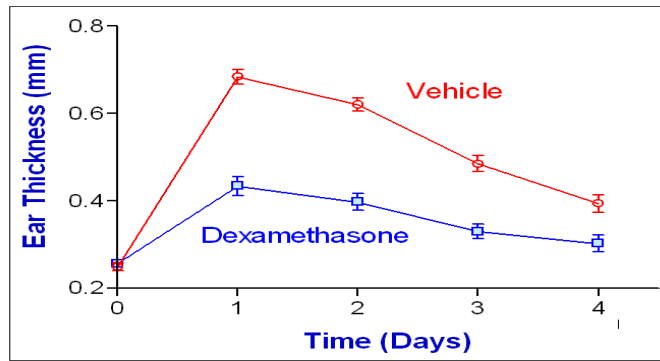


Figure 1. Results of an FDNB experiment

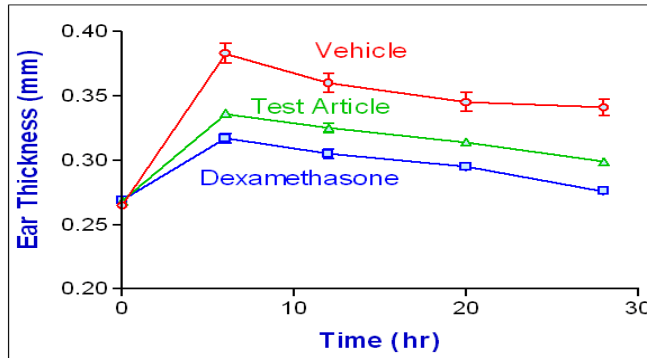


Figure 2. Results of an Oxazolone experiment

For information on pre-clinical ophthalmic pharmacokinetics,
efficacy modeling and toxicology services offered at CBI,
contact Mike Zamora, Business Development Manager

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