DATASHEET

Contact Hypersensitivity Model: FITC

Contact hypersensitivity (CHS) is a primarily T-cell mediated form of the delayed-type hypersensitivity reaction that is often used to model Allergic Contact Dermatitis (ACD). In the FITC induced model is Th2 (IL-4, IL-5) mediated, a role for eosinophils and mast cells has also been demonstrated in this model.

ACD reportedly affects 20% of the general population, and is characterized by irritated, red inflamed skin which becomes noticeably thicker over time. In the CHS model, dermal inflammation is induced through topical application of a sensitization agent that acts as a hapten and induces a strong inflammatory response in the skin upon subsequent exposure. Fluorescein Isothiocyanate (FITC) is a commonly used sensitization agent for studying ACD. At MLM, we have developed validated mouse models of FITC-induced CHS through application of the induction agent to the shaved mouse flank on Study Days 0 and 5 for sensitization. Animals are then challenged on Days 10-12 by the same sensitization agent applied to the dorsal surface of one ear, with the other ear serving as an internal control. Ear thickness is then measured on Days 10-14. Test articles can be applied either therapeutically on Day 10 or prophylactically on Day 0.

Experimental Overview

Animal Strain:	Mouse (Balb/c)
Study Duration:	12 - 14 Days
Number/Group:	Variable (Dependent on Objectives)
Sensitizing Agent:	FITC
Positive Control:	Dexamethasone

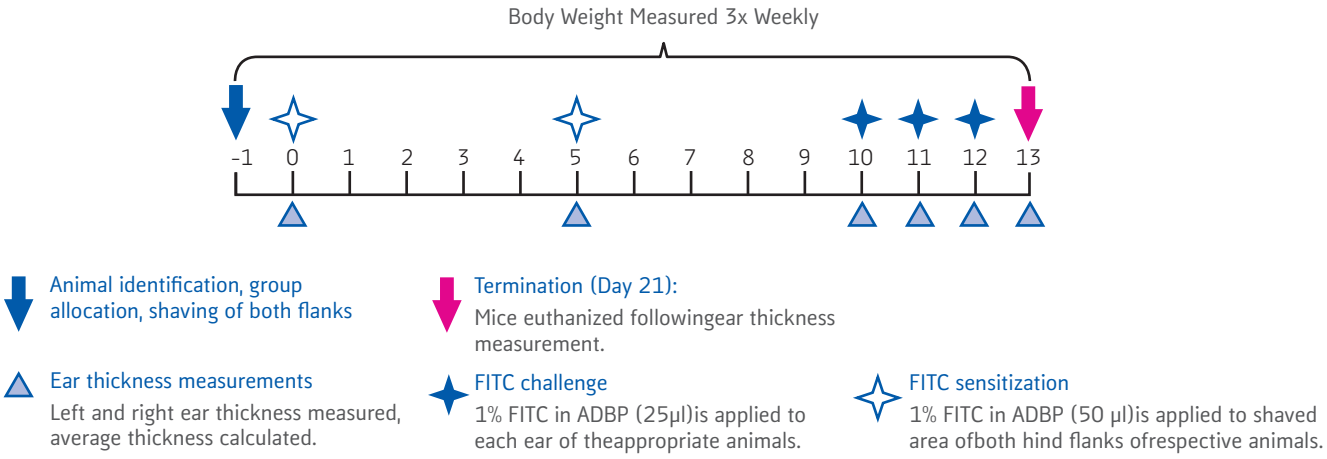
Standard Assessments

Body Weight
Ear Thickness
Cytokine Analysis (Ear Tissue)

Add-on Assessments

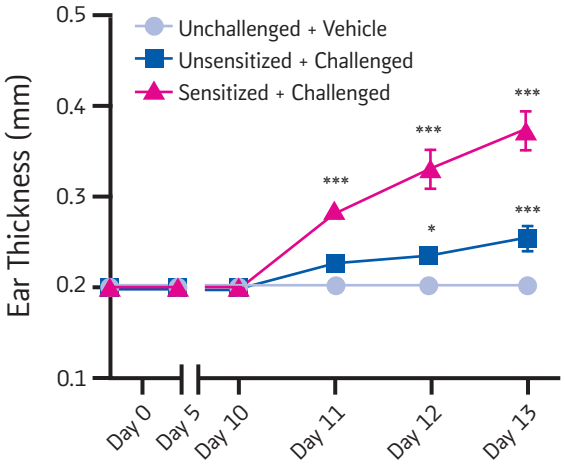
Cytokine Analysis (Serum)
Ear Histology
Gene Expression

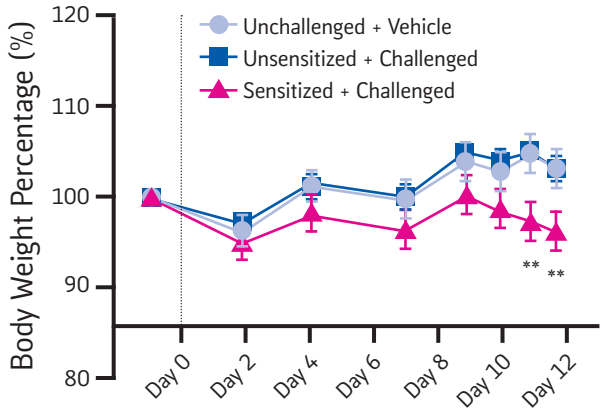
Example Experimental Schematic



FITC-Induced CHS Data

FITC Sensitization & Challenge





Ear Thickness.

Ear thickness of FITC-induced mouse ears of vehicle treatment (sensitized, no challenged) challenged on day 10 (without previous sensitization) and challenged on day 10 (with previous sensitization). *: p<0.05; **: p<0.01; ***: p<0.001 vs. Unchallenged + Vehicle group using two-way ANOVA followed by Dunnett's multiple comparisons.

Body Weight.

Body Weight of FITC-induced mouse ears of vehicle treatment (sensitized, no challenged), challenged on day 10 (no previous sensitization) and challenged on day 10 (with previous sensitization). *: p<0.05; **: p<0.01; ***: p<0.001 vs. Unchallenged + Vehicle group using two-way ANOVA followed by Dunnett's multiple comparisons.

Our Clients Say ...

"The performance of your team far exceeded our expectations. The study was performed well and we appreciate all your input into the study design. Your responsiveness and feedback during the study and following in the data interpretation was extremely helpful to guide our next steps. That's something we don't find with every CRO."

S.G., Toxicologist, Biotech Company

"Of all the CROs that I have used over the years... MLM Medical Labs been one of the very best in terms of scientific knowledge, data quality, timelines, flexibility and personal contacts."

O.B., Director of Therapeutics, Pharmaceutical Company

"Throughout our relationship, you have been attentive to our needs and have completed exploratory pilot studies and three drug studies with professionalism and an under- standing of tight biotech timelines that are unmatched by other CROs."

D.Z., Director of Therapeutics, Biotech Company

About MLM Medical Labs

MLM Medical Labs is a leading specialty and central laboratory with comprehensive research services and diagnostic capabilities in Europe and the United States. Offering a range of standard and fully customizable analytical services across a variety of therapeutic areas, we add value at every stage of the drug development process from nonclinical/preclinical through phase IV clinical trials that serve to augment and accelerate research programs to their next stages and milestones. Each disease area is supplemented extensively by different models and batteries of *in vitro* and *ex vivo* analyses, offering answers to your therapeutics' effect on different parameters. With our strong reputation for scientific expertise, passionate approach to customer care, and adherence to quality data, we empower clients ranging from emerging biotech to Top Ten Global Pharma companies to reach confident clinical decisions that ultimately serve to improve patient lives.

If you'd like to discuss a particular study or speak with a scientist, please reach out to us!

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