

MC903 Atopic Dermatitis (AD)

Atopic dermatitis (AD) is a prevalent, chronic inflammatory skin disease that is associated with Th2 immune response. AD results in inflammatory cells infiltration in the lesion, increasing serum immunoglobulin (IgE) and Th2 inflammation.

As experts in skin inflammation modeling, MLM Medical Labs is proud to present its extensive experience as one of the first laboratories to have validated the MC903 (Calcipotriol) induced AD model in mice. MC903 is a low-calcemic analog of vitamin D3 that could activate Th2 signaling to induce skin morphology change and inflammation that are observed in AD acute lesions. Topical application of MC903 upregulated the expression of Th2 cytokines such as IL4 and IL13, the expression of alarmins including IL-33 and TSLP and leads to epidermal hyperplasia.

Experimental Overview

MC903 (Calcipotriol) solution and positive control clobetasol is topically applied to the right ear daily. Test items are administered according to the client's criteria. Ear thickness and body weight are measured per the schematic below.

- Animal Strain: Male C57BL/6 Mouse
- Study Duration: 10 Days
- Animal #/group: 10
- Positive Control: Clobetasol-topical

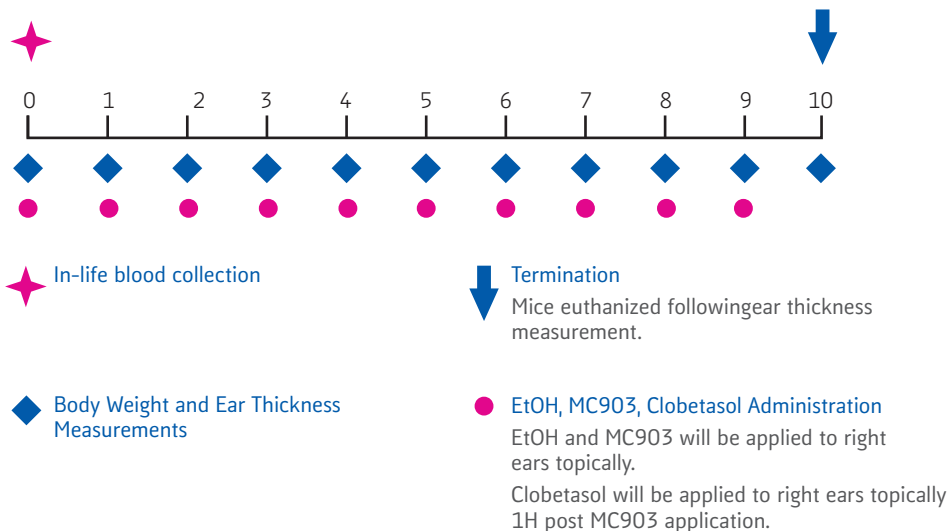
Standard Assessments

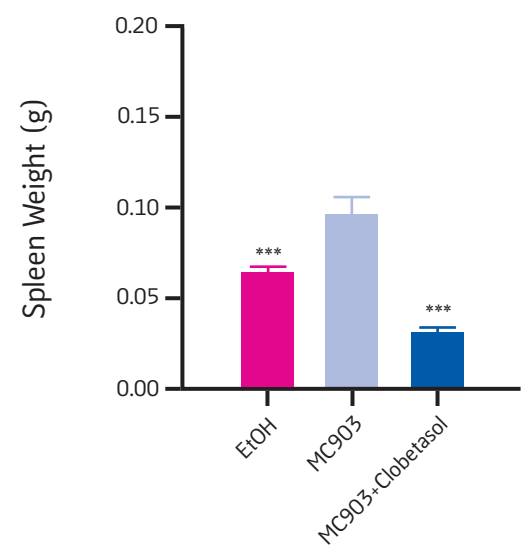
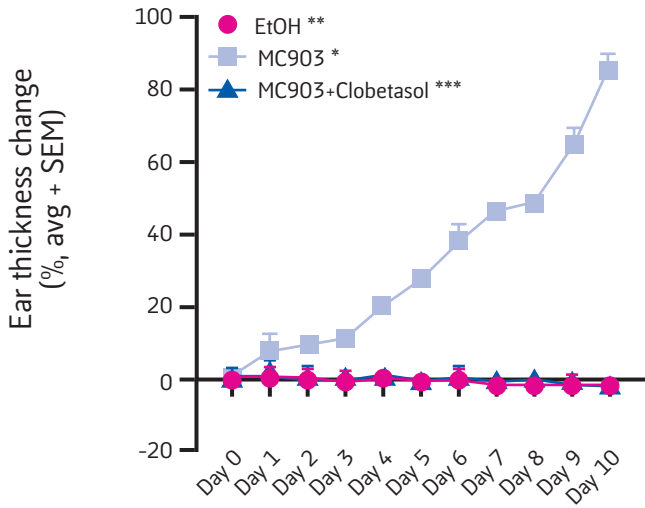
Ear thickness, Spleen Weight, Biomarker Analysis, Histology

Add-on Assessments

Serum IgE
Spleen Assessment

Example Experimental Schematic



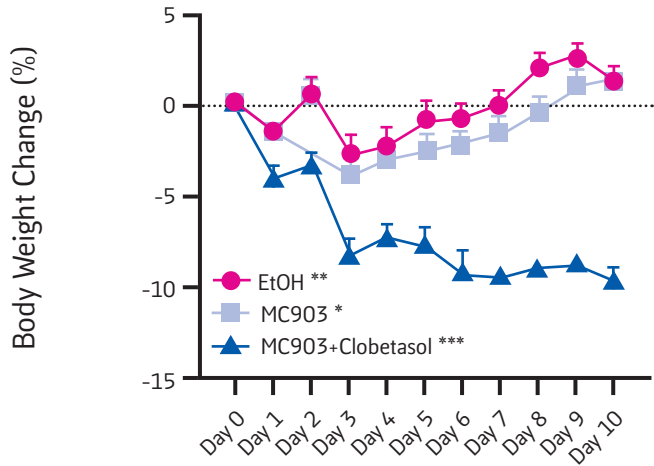


Ear Thickness.

Change in ear thickness is expressed as a percent change from Day 0 weight. Mean+SEM is displayed for each group over time. *: p<0.05; **: p<0.01; ***: p<0.01 vs. EtOH (vehicle) groups using two-way ANOVA followed by Dunnett's multiple comparisons.

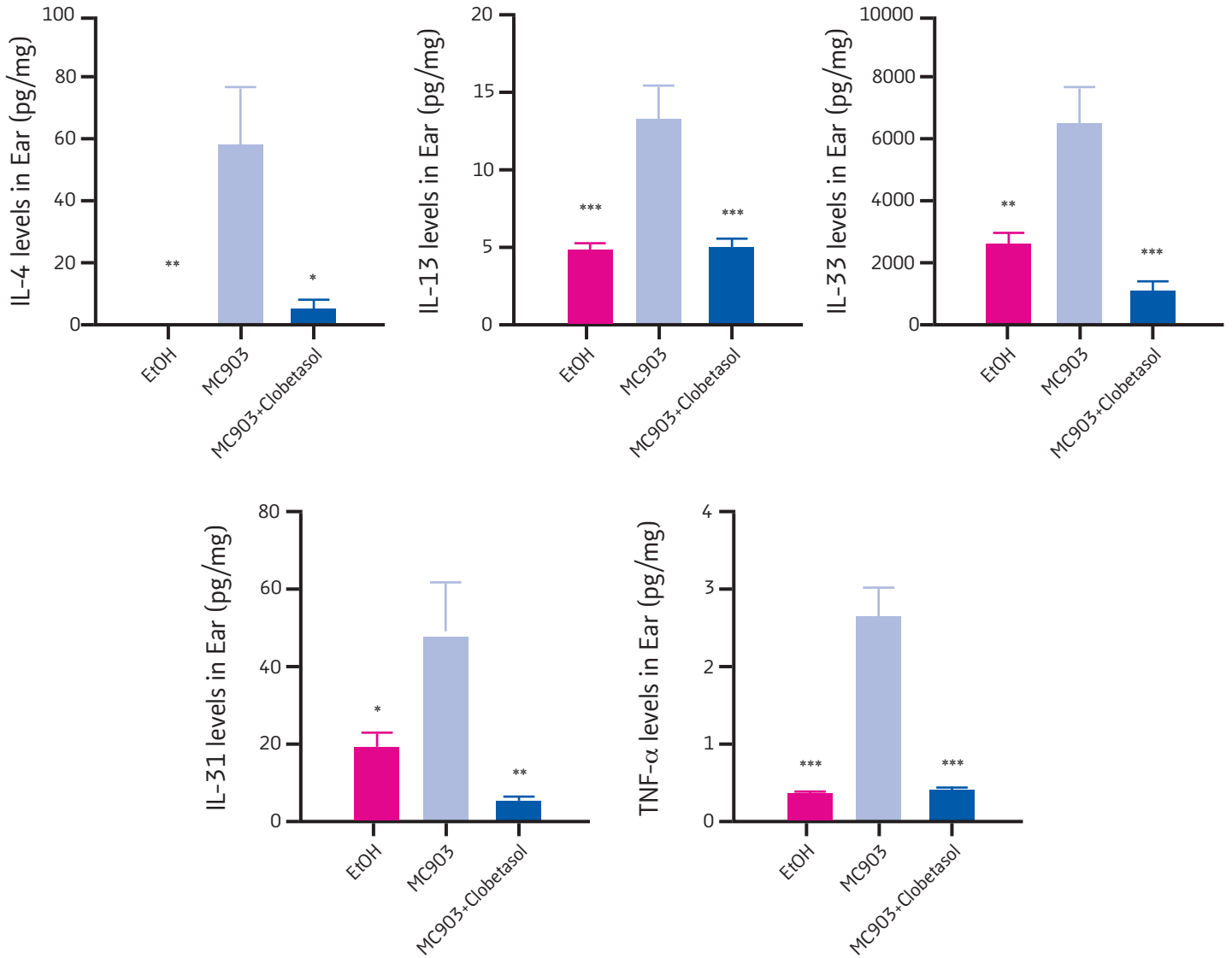
Terminal Spleen Weight.

Spleen weight at termination. Group means are displayed as + SEM. *: p<0.05; **: p<0.01; ***: p<0.01 vs. EtOH (vehicle) groups using one-way ANOVA followed by Dunnett's multiple comparisons.



Body Weight.

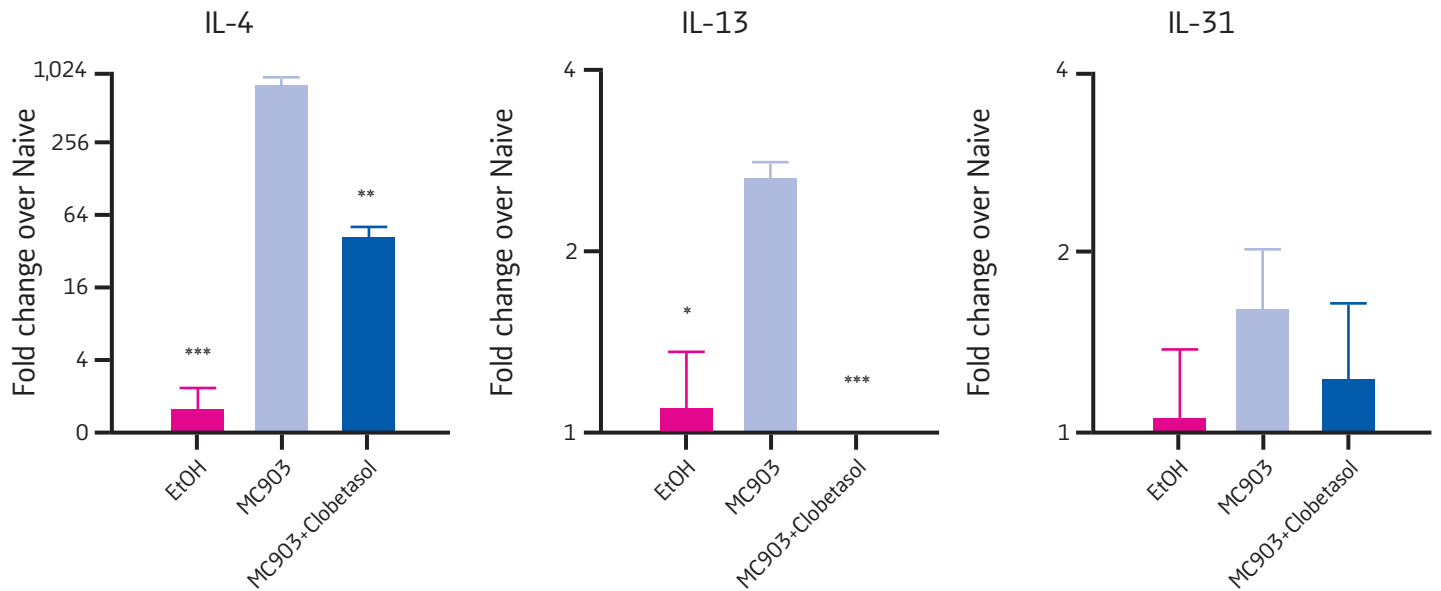
Change in body weight is expressed as a percent change from Day 0 weight. Mean+SEM is displayed for each group over time. *: p<0.05; **: p<0.01; ***: p<0.01 vs. EtOH (vehicle) groups using two-way ANOVA followed by Dunnett's multiple comparisons.



Terminal Ear Cytokine Protein Expression Levels.

Ear Cytokine levels at termination (day 10). Group means are displayed as + SEM.

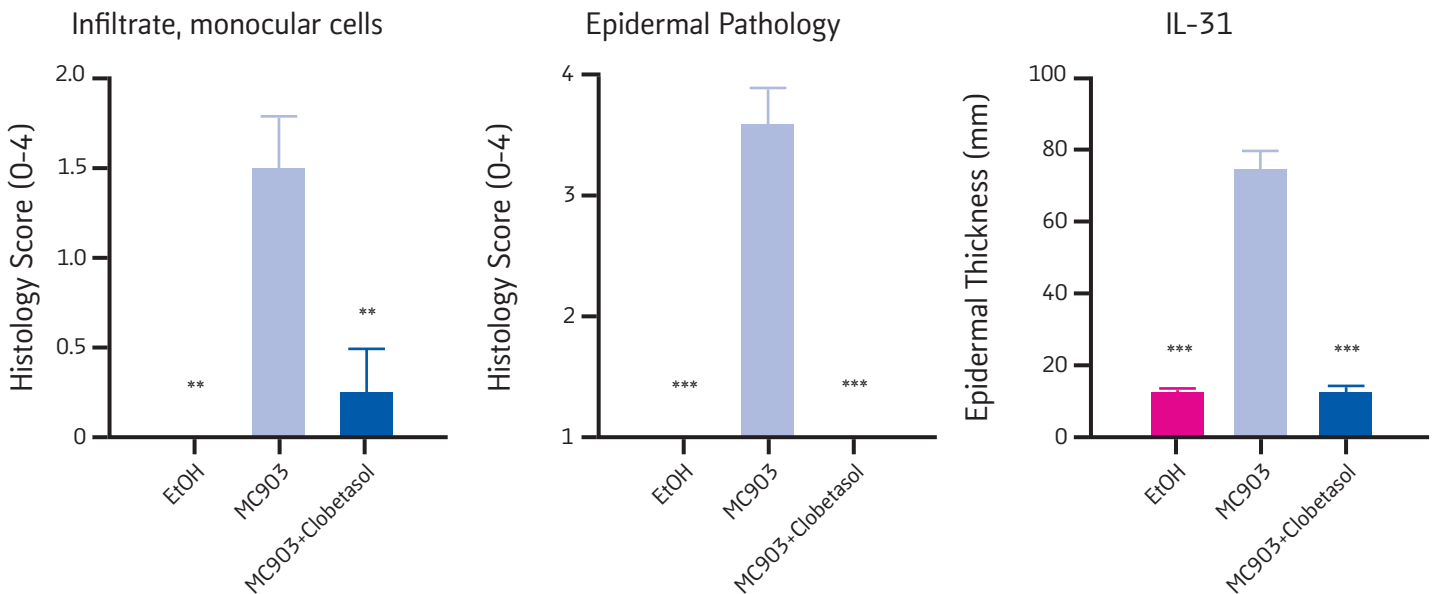
*: p<0.05; **: p<0.01; ***: p<0.001 vs. EtOH (vehicle) groups using one-way ANOVA followed by Dunnett's multiple comparisons.



Terminal Ear Cytokine Gene Expression Levels.

Ear Cytokine gene levels at termination (day 10). Group means are displayed as + SEM.

*: p<0.05; **: p<0.01; ***: p<0.01 vs. EtOH (vehicle) groups using one-way ANOVA followed by Dunnett's multiple comparisons.



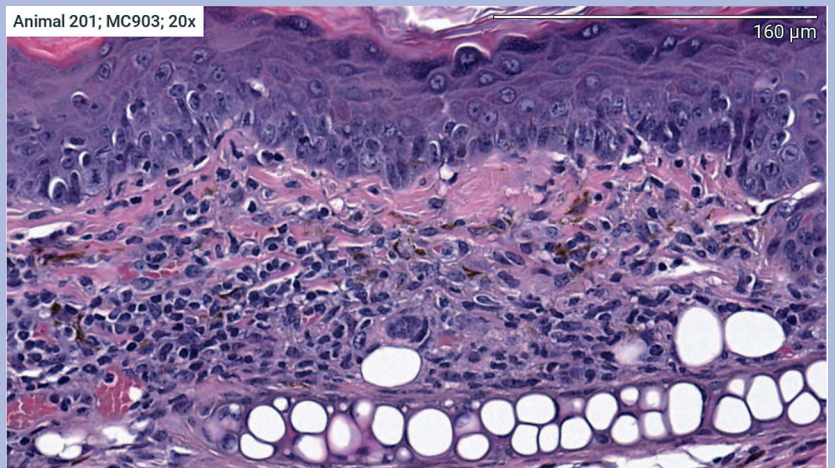
Histology Scoring

Ear was collected and fixed in formalin on day 10. Resulting slides were stained with H&E to evaluate cell infiltration, epidermal pathology and thickness. Group means are displayed as + SEM. *: p<0.05; **: p<0.01; ***: p<0.01 vs. EtOH (vehicle) groups using one-way ANOVA followed by Dunnett's multiple comparisons.

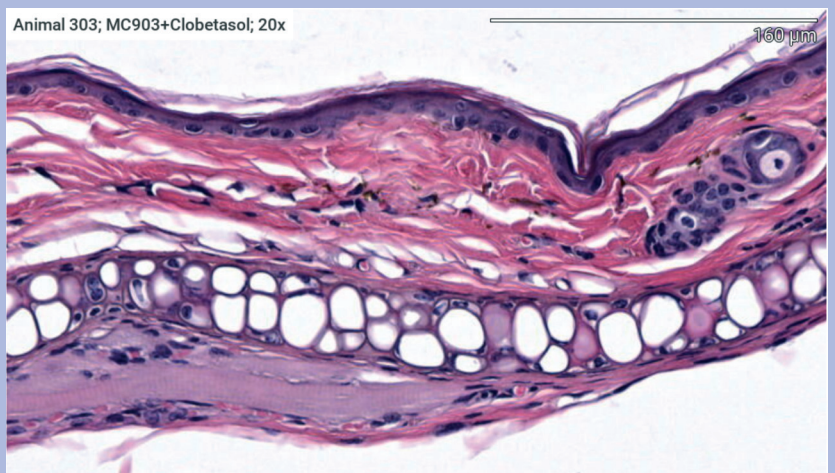
EtOH



MC903



MC903+ Clobetasol



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 understanding 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 non-clinical/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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