

Mouse IMQ-induced Psoriasis

Psoriasis is a very common skin disorder characterized by focal formation of inflamed, raised plaques that shed scales from excessive growth of epithelial cells and involves hyperplasia of epidermal keratinocytes, vascular hyperplasia and ectasia and infiltration of T lymphocytes, neutrophils and other types of leukocytes to affected skin.

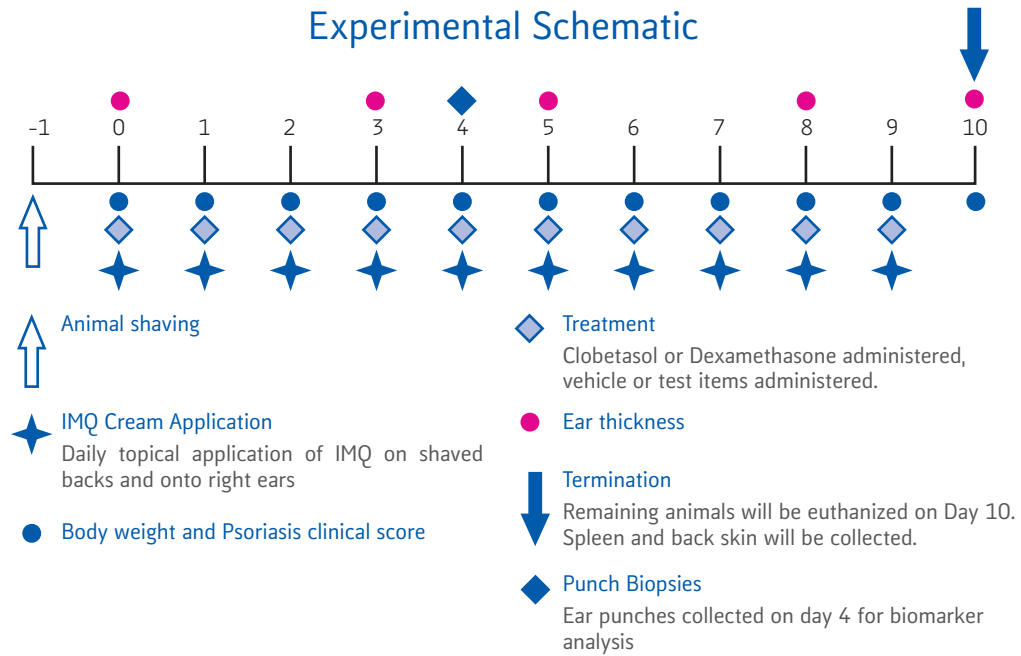
As experts in skin inflammation modeling, MD Biosciences is proud to present its extensive experience as one of the first laboratories to have validated the imiquimod induced psoriasis model in mice. This rapid model of psoriasis-like inflammation involves the IL-17/IL-23 axis. Imiquimod is a potent TLR7/8 ligand and potent immune modulator. Application of imiquimod on the back and ear of mice induces a psoriasis-like inflammation.

Experimental Overview

IMQ cream is applied to the shaved back and onto the right ear daily. Positive control and test items are administered according to the client's criteria. Ear thickness, clinical score and body weight are measured per the schematic below.

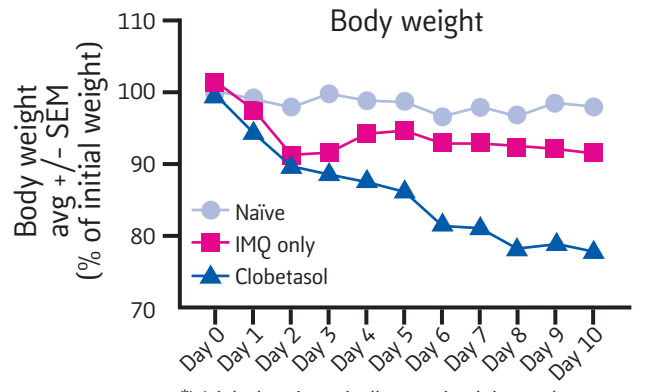
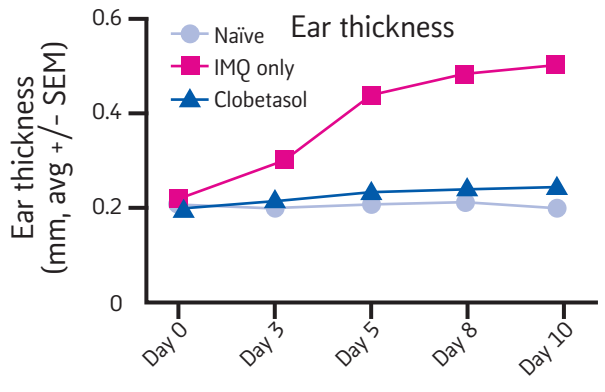
Animal Strain:	Balb/c Mouse
Study Duration:	10 Days
Animal #/group:	10
Positive Controls:	Clobetasol-topical Dexamethasone -IP/PO
Standard Assessments:	Clinical score/signs Ear thickness
Add-on Assessments:	Biomarker Analysis Histology IHC Collagen level Spleen assessment

Experimental Schematic

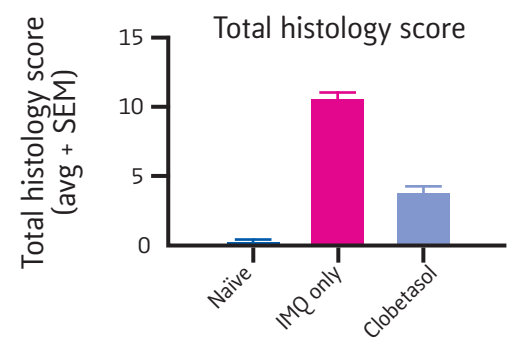
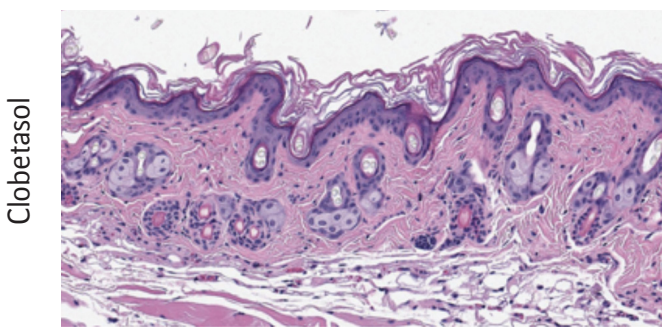
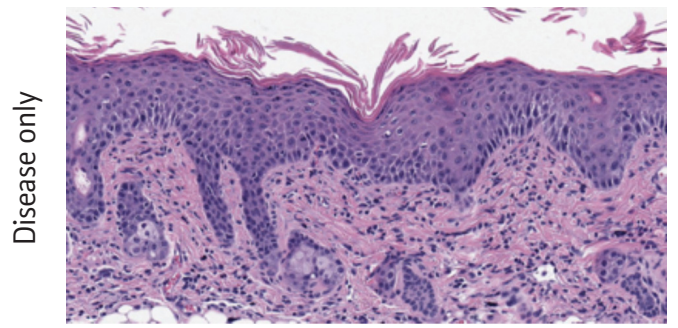
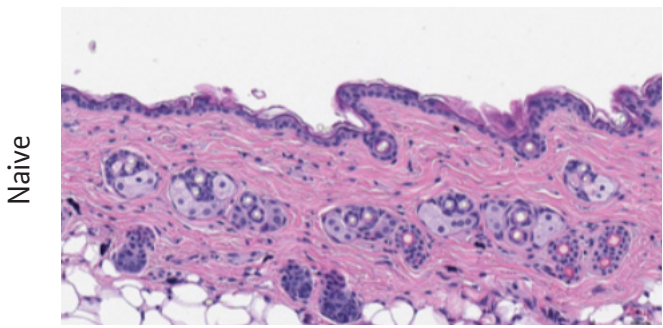
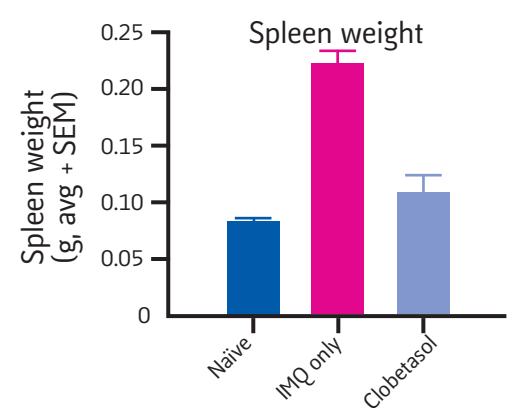
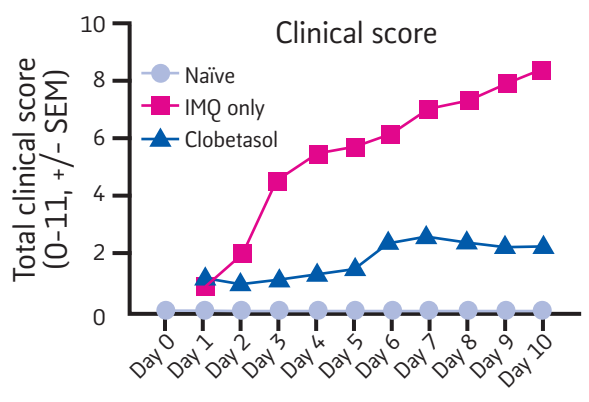


Combined Disease Model Data

Note: Similar results seen with oral dexamethasone. Topical clobetasol shown below.



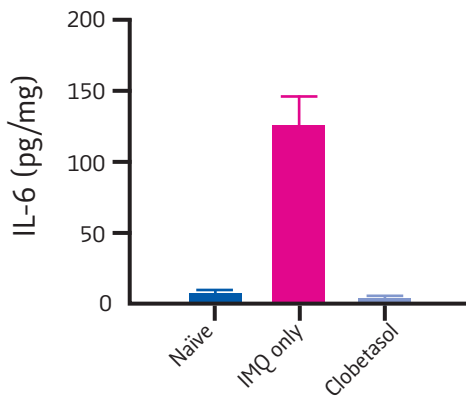
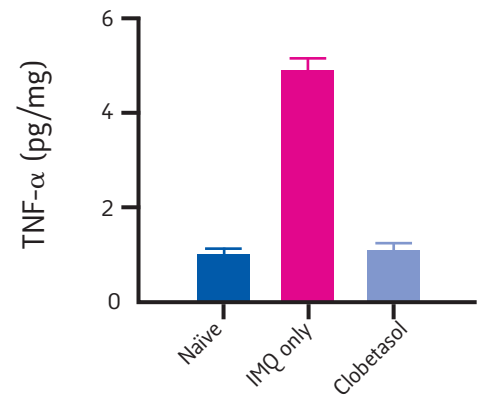
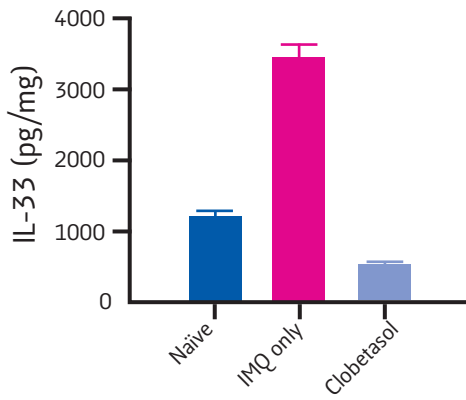
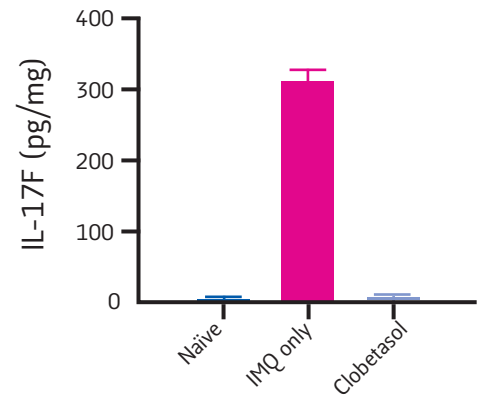
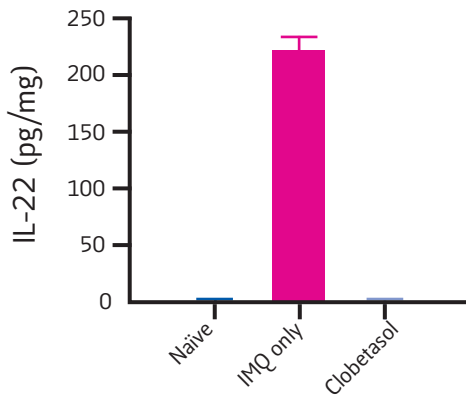
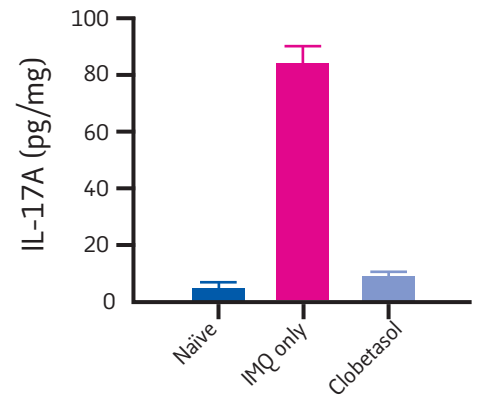
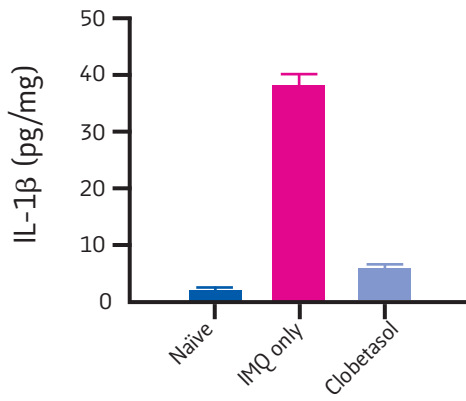
*Weight loss is typically seen in clobetasol groups.



Representative mouse IMQ histology images. Decreased mean severity of epidermal hyperplasia and subacute dermal inflammation are seen in Clobetasol group compared to IMQ-only. Epidermal hyperplasia was characterized by increased epidermal thickness in comparison to the naïve group. Subacute inflammation in the dermis was characterized by increased mixed mononuclear cell infiltrates with rare neutrophils and other granulocytes. Additionally, hyperkeratosis, characterized by increased layers of keratinocytes in the stratum corneum, was decreased in the groups given Clobetasol in comparison to the IMQ-only group.

Combined Proteine Biomarker Data from Punch Biopsy of the left ear done on day 4

Note: Similar results with oral dexamethasone. Topical clobetasol positive control shown below.



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

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

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