CBI
IMIQUIMOD-INDUCED DERMATITIS IN MICE: A MODEL OF PSORIASIS

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COMPARATIVE BIOSCIENCES, INC.
A TRANSLATIONAL APPROACH TO PRECLINICAL RESEARCH

COMPARATIVE BIOSCIENCES, INC.

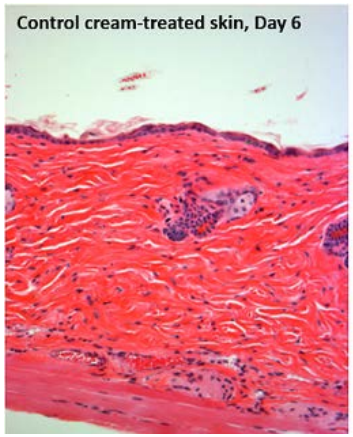
- Premier Preclinical Contract Research Organization
- Specializing in Ocular Pharmacology, Toxicology and Histopathology
- 20 Years in business
- Located in the heart of Silicon Valley
- State of the art, purpose-built facility
- ~35 employees with 7 PhDs, 2 pathologists
- Experienced study directors and scientists
- GLP, OECD, FDA, USDA, OLAW
- AAALAC Accreditation

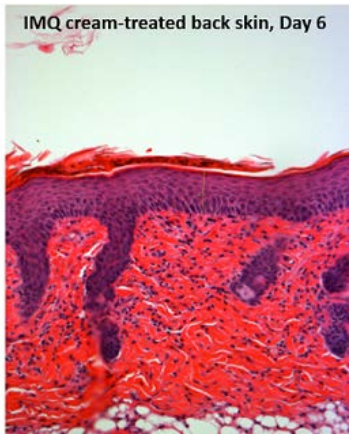
IMIQUIMOD-INDUCED DERMATITIS IN MICE: A MODEL OF PSORIASIS

Imiquimod is an immune modifying toll-like receptor agonist

- Topical application of IMQ to susceptible BALB/c mice rapidly induces a psoriatic skin inflammation
- Lesions similar to man
- Erythema, swelling and scaling
- Histologically similar to man
- Responds to similar human therapies

IMIQUIMOD-INDUCED DERMATITIS: PATHOLOGY





- Gross pathology
  - Left: Normal mouse
  - Right: Imiquimod-treated mouse
- Microscopic pathology
  - Left: Normal skin
  - Right: Imiquimod-treated mouse with increased epithelial thickness and dermal inflammation

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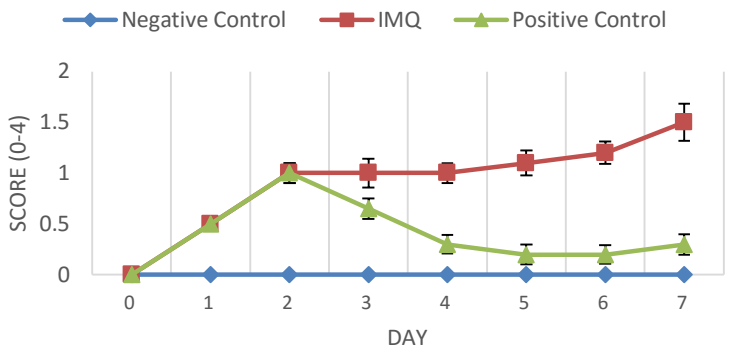
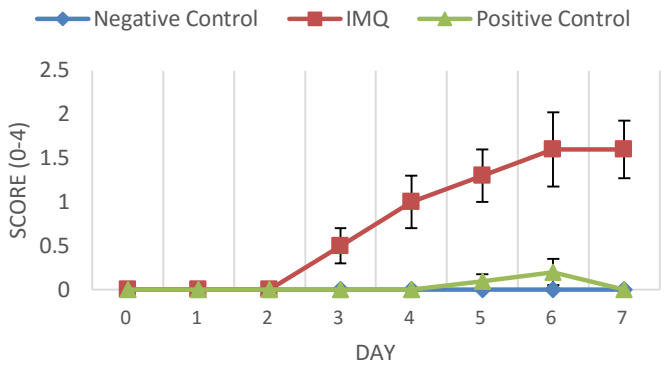
IMIQUIMOD-INDUCED DERMATITIS IN MICE: DERMAL CLINICAL ASSESSMENTS

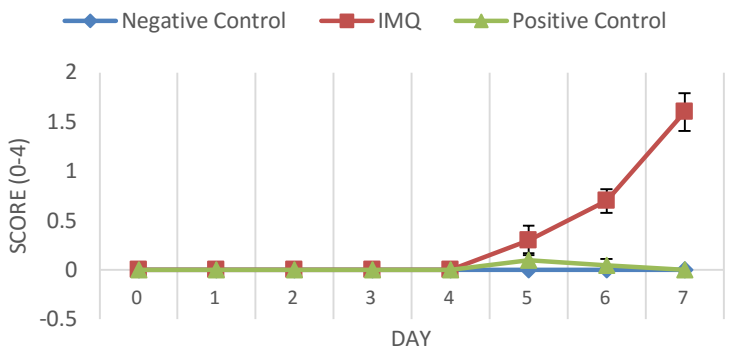
ERYTHEMA SCORING



THICKNESS SCORING

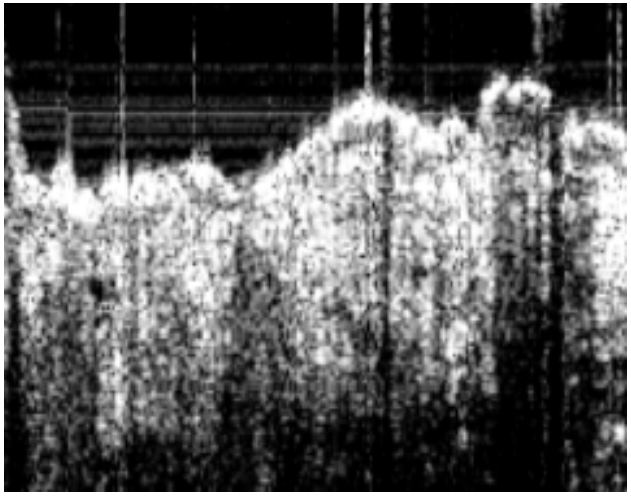


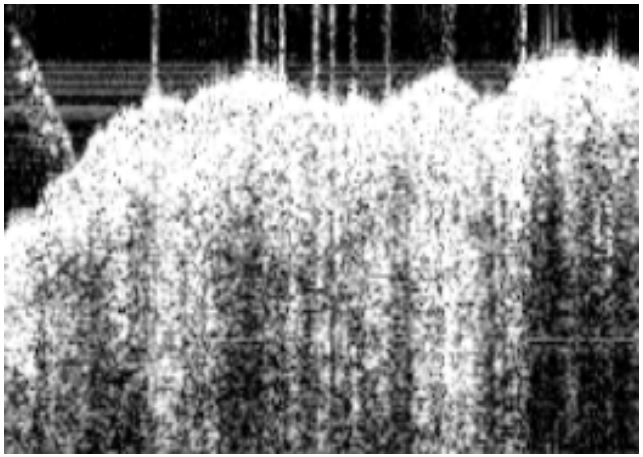
SCALINESS SCORING



Imiquimod produces increases in dermal thickness, erythema and scaliness. The positive control (clobetasol) reduces the clinical signs.

IMIQUIMOD-INDUCED DERMATITIS: PATHOLOGY: OCT





- Top: Normal Skin. The epidermis and underlying dermis are within normal limits

- Right Dermal fibrosis with clearly increased thickness of epidermis and increased colllagenous density of dermis

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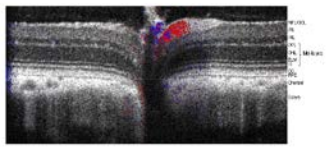
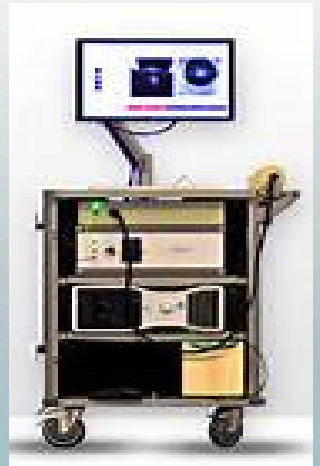
OPTIMIZED COMPUTER TOMOGRAPHY

Bioptigen Envisu R-Class system for preclinical studies

OCT should always be included in dermatologic ocular toxicology, pharmacokinetic and pharmacology studies.

- Noninvasive and only requires brief immobilization
- Facilitates longitudinal, real time and repetitive tracking of skin ocular changes, in particular, dermal fibrosis, epidermal thickness changes, injection material, stem cell implants, intraocular implants, and tumors.
- Contributes to improved clinical trial design





SUMMARY: IMIQUIMOD-INDUCED DERMATITIS IN MICE: A MODEL OF PSORIASIS

- CBI offers a robust and validated murine model of psoriasis induced by dermal application of imiquimod, an immune modifying toll-like receptor agonist
- Topical application to susceptible BALB/c mice rapidly induces a psoriatic skin inflammation that responds to standard treatment with clobetasol
- Lesions similar to man and characterized by application site increases in erythema, dermal thickness and scaling that is similar histologically to psoriasis in patients.