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UV-light induced dermal inflammation in hairless mice

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COMPARATIVE BIOSCIENCES, INC.
A TRANSLATIONAL APPROACH TO PRECLINICAL RESEARCH

COMPARATIVE BIOSCIENCES, INC.

- Premier Preclinical Contract Research Organization
- Specializing in Dermal and Ocular Pharmacology, Toxicology and Histopathology
- 18 Years in business
- Located in the heart of Silicon Valley
- State of the art, purpose-built facility
- ~30 employees with 7 PhDs, 2 pathologists
- Experienced study directors and scientists
- AAALAC Accredited, GLP, OECD, FDA, USDA, OLAW



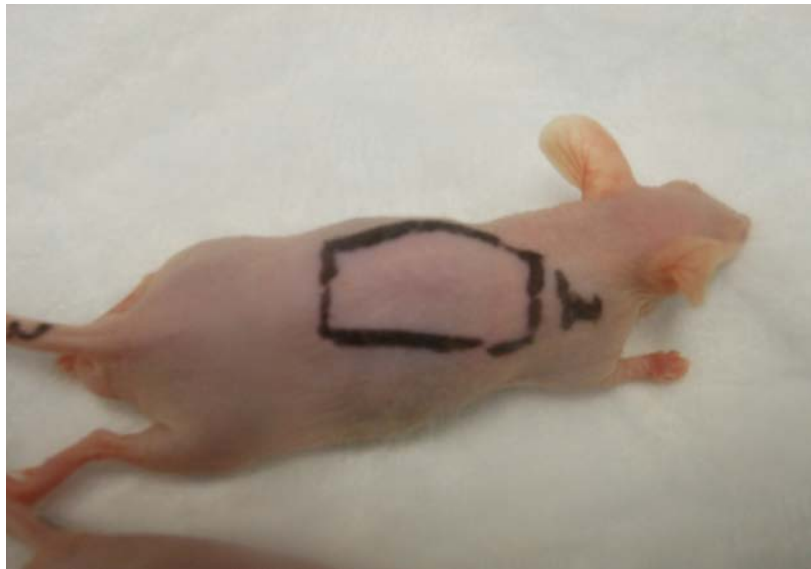
UV-LIGHT INDUCED DERMAL INFLAMMATION IN HAIRLESS MICE

- UVB irradiation for 4 days
- Treatment for up to 1 week
- Draize scoring and photography 3 or more times a week
- Body weights 3 or more times a week
- Histopathology
- Immunohistochemistry
- Cytokine panel
- Complete report



NORMAL HAIRLESS MOUSE

- A normal hairless mouse is prepped for treatment



HAIRLESS MOUSE FOLLOWING 4 DAYS OF UVB LIGHT IRRADIATION

- Exposure site on backs of mice are red and edematous.



HAIRLESS MOUSE FOLLOWING 4 DAYS OF UVB LIGHT IRRADIATION-DAY 8

THE SKIN IS HEALING AND REDNESS IS REDUCED



HAIRLESS MOUSE FOLLOWING 4 DAYS OF UVB LIGHT IRRADIATION-DAY 14-HEALED

- After 2 weeks, the lesion is well resolved.



**HAIRLESS TREATED MOUSE FOLLOWING 4 DAYS OF UVB LIGHT IRRADIATION
AND TREATMENT WITH ANTI-INFLAMMATORY
-DAY 10**

- The dermal lesion is healed.



CHARACTERISTIC HISTOPATHOLOGY

- Marked epidermal thickening (acanthosis) and associated increases in surface keratin (hyperkeratosis).
- Increased basal layer mitosis of the basal layer, and spongiform edema of the keratinocytes in the prickle cell layer.
- Epidermis 8-15 cells thick (1-2 cell layer thickness normal murine skin).
- Mild to moderate to severe, multifocal inflammation was, composed of foci of an admixture of neutrophils with fewer monocytes, lymphocytes, eosinophils, thrombi and macrophages in dermal stroma and surrounding follicles.
- Hair follicles dilated, increased layers of keratin leading to dilation, obstruction, and inflammation of the follicle and duct with layers of keratin.



HISTOPATHOLOGY

- There is epidermal acanthosis and hyperkeratosis with moderate to several dermal inflammation and dilation of hair follicles with keratinic debris. Day 6

