

The miniature swine is a well recognized animal model of dermal toxicology, transdermal drug delivery and wound healing. In fact, staff members of the USFDA have recommended the use of miniature swine for dermal toxicological research and, until recently, the FDA has maintained their own colony of miniature swine (MS) at the Laurel, MD campus.¹ The miniature swine is also recognized by regulators as an acceptable non-rodent species for efficacy and safety evaluation of a variety of pharmaceutical products.

Sinclair Research Center is proud to announce the availability of a unique dermal animal model. The white 'hairless' Yucatan miniature pig is not an albino. The white hairless background facilitates scoring for dermal irritation, such as the Draize endpoints erythema and edema, with minimum to no shaving required. A subset of this lineage has pale grey areas offering both light grey (melanotic) and white (amelanotic) skin areas. These animals offer enough dark area of skin to allow side-by-side comparisons of candidate drugs whose properties may be affected by skin melanin content or where safety assessment is needed on both categories of skin. This model is gaining popularity for Dermal pK, TK and wound healing studies. White Hairless Miniature Swine offers toxicologists and pharmacologists a new research miniature swine model which won't outgrow your facility or eat up your budget.

Besides anatomic similarities, swine are equivalent to primates for percutaneous absorption studies and have similar lipid biophysical properties, epidermal turnover kinetics and carbohydrate metabolism in the skin. Unlike rodents, pigs possess sufficient body weight to tolerate prolonged topical administration of potent drugs. Porcine skin is anatomically, physiologically, biochemically and immunologically similar to human skin, and the skin is 'fixed skin' like humans and unlike rodents or rabbits.² Pig skin mirrors human skin by having a sparse haircoat and a relatively thick epidermis, and the arrangement of dermal collagen and elastic fibers is comparable.³

References

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