Mouse Ear Tattoo: A Quick and Easy Alternative to Ear Punches and Tags

By Brian H Hess, Group Leader, Abbott Diagnostics, Biologics Process Development, Biologics Polyclonal Antibody Operations

The various methods of mouse identification have advantages and disadvantages. Remote frequency identification (RFID) implants are reliable, but may be cost prohibitive for large groups of animals. Ear tags are cost effective and easy to apply, but may be pulled out or lost. Tail tattooing can be time consuming and requires the technician to have adequate skill to apply the tattoo for long-term readability. None of these methods allow for animal identification through in-cage observation.

Fig. 1. Aramis Micro Tattoo system.

To address these concerns, we developed a quick and easy method to identify mice using a common micro tattoo system. The Aramis Micro Tattoo system (Braintree Scientific Inc., Braintree, MA), designed for tattooing the toes of mice, consists of a forceps-like device with a 25-g hypodermic needle on one side; the needle passes through a hole on the opposing side into an ink well containing a nontoxic paste (Fig. 1). With this device, we apply ear tattoos using a simple dot pattern for identification of individual animals (Fig. 2).

We usually tattoo the mice following pre-blood sampling during which the animals are anesthetized; the anesthesia is helpful during the tattooing, but is not a requirement. The animals are gently restrained by scruffing the back of the neck for tattoo application. The needle is passed through the ear the required number of times, and is re-inked after passing into the ink well on the opposing side. To aid cleanup, we use a pipette tip that has been cut down as the ink well. Any excess ink is gently wiped off using a damp gauze pad.

Multiple cages of mice can be tattooed with a repeating numbering system; cage cards can be labeled to identify specific groups. The numbering system could also be modified to include a larger variety of numbers or to suit individual preferences. We have expanded the technique to include all of our rat studies; it could also be used for other species, such as guinea pigs or hamsters.

We have applied ear tattoos to hundreds of animals, and it has proven to be an easy and inexpensive way to identify individual animals. Unlike the identification methods mentioned above, this system of identification allows in-cage animal identification, and the tattoos remain easily readable for extended periods of time. The animals showed very little discomfort during tattoo application, and displayed no adverse effects after receiving the tattoos; the sterile, disposable needle provides extra protection against secondary infections.

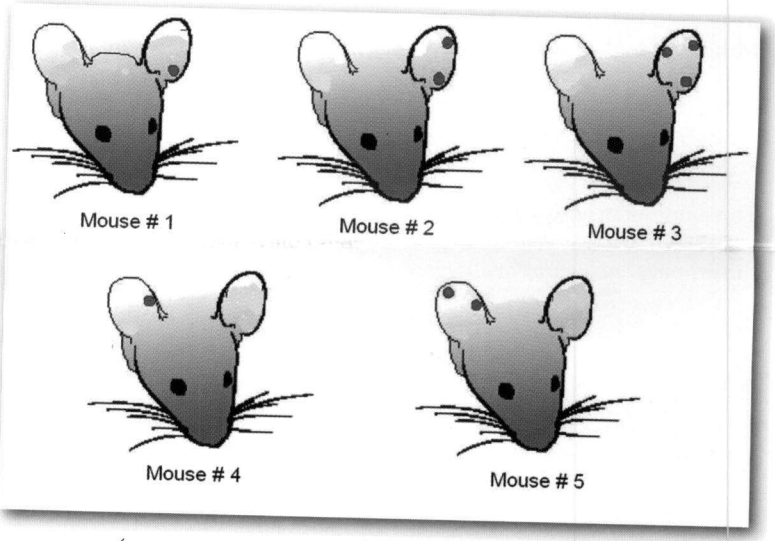

Fig. 2. Ear tattoo numbering system.