

Genetically engineered mice may be genotyped through collection of distal tail tissue (tail biopsy).

Age & Anesthesia

Anesthesia is not necessary for mice less than 17 days old given lack of vertebral ossification and periosteal & endocortical innervation¹.

Anesthesia is required for mice greater than 16 days old. Refer to the DCM Formulary for commonly used anesthetics.

<https://www.urmc.rochester.edu/MediaLibraries/URMCMedia/animal-resource/forms/documents/SedationTranquilization-Anesthesia-and-Analgesia-in-Laboratory-Animals-includes-recommended-formularies.pdf>

Post-biopsy analgesia is not required.

Biopsy Length

5mm maximum length at tail tip. A 5 mm length produces the highest quantity of DNA especially in mice less than 17 days old due to high cartilage content¹.

Procedure

Use a sterile, straight edge blade to transect up to the distal 5 mm of the tail resting on a cushioned material (e.g. a Nestlet™ or paper towel). A fresh edge of the same blade may be used on all mice in the same cage.

Be prepared to stop tail tip bleeding with director pressure and a styptic (copper- or ferric-based or antibiotic powder).

Return the mouse to the cage after confirming hemostasis.

- 1 Hankenson, F. C., Garzel, L. M., Fischer, D. D., Nolan, B., & Hankenson, K. D. (2008). Evaluation of tail biopsy collection in laboratory mice (*Mus musculus*): vertebral ossification, DNA quantity, and acute behavioral responses. *Journal of the American Association for Laboratory Animal Science*, 47(6), 10-18.