

Transgenic Core Facility
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TCF PROTOCOL

Transgenic Founder Mice Breeding Instruction

1. Lab Mouse *Mus musculus* Statistics (Reproduction)

- Gestation time 19-21 days
- Age of weaning 3 weeks
- Lactation duration ~4 weeks
- Age at sexual maturity ~6 weeks (highly variable)
- Estrus cycle frequency ~3-5 days (highly variable)
- Average litter size ~1-10 (highly variable)
- # of litters per female 4-8 (highly variable)

2. Breeding Strategy

a. Sexual maturation / Estrus

- Male: >6 wks; Female:>4-5wks (highly variable)
- Best breeding start: >8wks
- Depend on age, size & strain (highly variable)– Age & weight– Post-partum estrus

b. Housing males

- Fighting: do not pool males if they did not live together before weaning
- Territory: always put females into male cage
- Dominant status: do not put more than 3 females with 1 male

c. Breeding strategy

- 1:1 (for most strains)
 - Pros: Prevent overcrowded; easy to identify problematic breeders
 - Cons: cannibalize pups; space concern
- 1:2 (B6, 129, poor breeders)
 - Pros: Increase litter size, decrease cannibalization
 - Cons: Trampling of newborn pups; hard to ID poor breeders
- Rotating females

d. Retirement:

- Male: around 1 year (highly variable)
- Female: after 6 litters or around 1 year (highly variable)