

Why am I getting per diem bills from Animal Medicine for cages located in the Transgenic Animal Modeling Core?

UMMS IACUC and IBC require that animals with genetic or cellular alterations must be covered by an IACUC (and linked IBC) docket that describes those alterations and their potential effects on human or animal health. Thus, once a gene, BAC, nuclease, virus, or a stem cell is added or altered in an animal, the animal must be placed under the docket that describes that specific animal. For this reason, the TAMC has always placed mice or rats bearing recombinant nucleic acids or exogenous cells onto the individual PIs docket (i.e. after the embryo transfer surgery). As Animal Medicine bills by Docket numbers- you will see cage costs coming from the TAMC animal rooms. Usually these are not very large bills; the most expensive would be for work done using inbred C57B/6 mice:

For a C57BL/6 transgenic project:

- Each injection experiment generates 4-5 pregnant dams, housed in cages for 3 weeks (until birth): $5 \text{ cages} \times 21 \text{ days} = 105 \text{ CD (cage-day)}$
- After birth, the pups are kept with mom until weaning: $5 \text{ cages} \times \sim 23 \text{ days} = 115 \text{ CD}$.
- At weaning, the pups are biopsied and weaned into 3-4 cages for another week until transport, and the moms euthanized: $4 \text{ cages} \times 7 \text{ days} = 28 \text{ CD}$.

So each injection experiment will involve about 248 CD.

If a C57BL/6 project involves 4-5 injection experiments (typical for transgenesis in an inbred strain), the PI will see between 992 – 1240 CD billed to his/her own docket. At \$0.57 per cage day (2015 UMMS per diem rate), **that equates to \$565-\$706 in cage expenses for an entire project.**

Note- We must also keep pregnant wildtype dams going in parallel to allow for fostering of B6 inbred pups after cesarean sectioning, as foster mice bearing inbred B6 pups are susceptible to dystocia (and the mom and litter die) and/or fail to deliver in a timely manner (and the litter dies *in utero*). This occurs with ~80% of all dams bearing transferred C57Bl/6J embryos, and is due to the rapid growth (and overgrowth) of exogenous B6 embryos *in utero*. To avoid losing whole litters, we must keep an additional 2-3 breeding cages of foster (wildtype) SW or ICR mice going in parallel, which are set up at the time of the embryo transfer surgeries. As we maintain small stocks of SW and ICR mice, the PI is not charged for these mice, but is charged for the few cages once the mating pair is set up (in parallel with the embryo transfers). Thus $3 \text{ cages} \times 28 \text{ d} \times 5 \text{ surgeries} = 336-420 \text{ CD}$, which will add another **\$192-\$240** to the overall bill for a project.

So, for a typical inbred C57BL/6 project, the PI will be separately billed by Animal Medicine for \$757-\$946 in cage costs. As the numbers of experiments, surgeries, and foster moms needed in hand are greatly reduced for a hybrid project or an ES cell-chimera project, this separate bill from Animal Medicine is usually half (about \$420-\$470) for these projects.