



Vanderbilt Genome Editing Resource

We are writing to tell you about our recent service improvements and to let you know that we have changed our name.

New name, same services

In preparation for the upcoming renewal of the Cancer Center Support Grant, the Vanderbilt Transgenic Mouse/ES Cell Shared Resource (TMESCSR) is changing its name. We will now be known as the [Vanderbilt Genome Editing Resource \(VGER\)](#). The rebranding of this shared resource reflects the fact that CRISPR-Cas9 technology has fully replaced the use of mouse embryonic stem cells for performing targeted mutagenesis of mice. VGER will continue to perform pronuclear microinjections, cryopreservation, rederivation and long-term storage services to support your use of genetically altered mice.

For all mouse services contact Jennifer Skelton at jennifer.skelton@vanderbilt.edu or visit our [website](#).

Full service gene editing

Since switching to the use of Cas9 ribonucleoprotein complexes, we have achieved a 100% technical success rate for attaining the desired gene edit. Fifteen of sixteen full service projects produced live animals, with embryonic lethality occurring in the sixteenth project. Over the past year we've also gained experience performing several gene edits up to 2 kb in length. Thus, we are now positioned to take on projects that involve floxing of genes, insertion of exogenous proteins such as fluorescent proteins, single or multiple point mutations, and inducible point mutations using cre-mediated conditional inversions.

To initiate a genome editing project contact Leesa Sampson at leesa.sampson@vanderbilt.edu or visit our [website](#).

Improved cryopreservation methods

With the attendance of Linda Gower at a recent Jackson Laboratory training course, our cryopreservation methods are now state of the art. Through a combination of culture media additives and expedited oocyte collections, both sperm quality and oocyte quality are improved. This results in higher rates of embryo fertilization and better IVF project outcomes. We encourage you to [cryopreserve](#) your valuable mouse strains. Not only will it protect your lines from diseases and genetic drift, you will save money by not maintaining unused mouse lines as live animals.

Vanderbilt-specific ILAR Code, Vu

With many new mouse models being created with CRISPR-Cas9, and the greater use of standardized nomenclature to describe new strains, we sought and were granted a [Vanderbilt specific ILAR code](#), Vu. This code is being appended to all lines accepted into the Vanderbilt Cryopreserved Mouse Repository (VCMR). We encourage Vanderbilt investigators to [submit](#) their gene-edited lines to the VCMR. Not only will it assure compliance with the National Institutes of Health Animal Resource Sharing Policy, you will no longer have to pay annual cryostorage fees, or manage the distribution of mice to others.

For information regarding the Vanderbilt Cryopreserved Mouse Repository, please contact vcmr@vanderbilt.edu or visit the [VCMR website](#).

Happy Holidays! We look forward to helping you advance your research in the New Year.

Mark A. Magnuson
Jennifer Skelton
Leesa Sampson
Linda Gower

