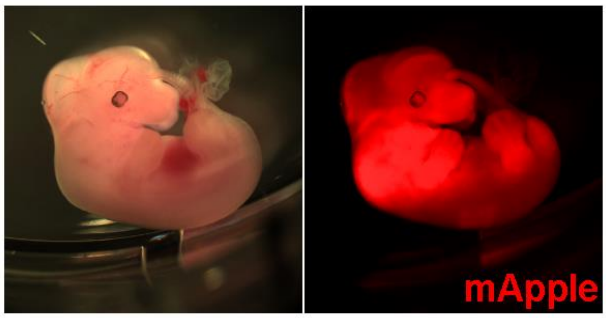
Vanderbilt Genome Editing Resource

PiggyBac transgenesis



We are pleased to introduce piggyBac transposase-mediated transgenesis as a new service. PiggyBac transgenesis is 3-4 fold more efficient than conventional transgenesis, has single copy insertion sites, and works for BACs. Multiple types of piggyBac transposons can be designed *in silico* and purchased commercially, making this a fast and efficient way to generate new transgenic founder lines. As proof of principle, VGER produced mApple-expressing embryos at a 45% efficiency, an example of which is shown to the right. We are currently restricted to providing this service to VU/VUMC investigators only. Inquire for more details.

Construction below the barrier facility is complete

For the past 6-7 months, construction below our microinjection and housing rooms in MCN has caused a marked increase in rates of spontaneous abortions and cannibalism. We are seeing a trend back towards normal litter sizes as the project nears completion, and as noise abates. We anticipate our production efficiencies will return to our pre-construction averages in the New Year.

New and improved SpCas9 proteins

We have switched to the use of an enhanced specificity SpCas9 protein for all genome editing projects. eSpCas9 reduces off-target editing without sacrificing on-target efficiency.

Search for a new staff member

In order to keep up with the demand for our current services, and to develop new services to facilitate studies in induced pluripotent stem cells (iPSCs), we are currently searching for a highly motivated individual with relevant research experience to join our team. Please let any junior colleague who may be interested know about this opportunity. Additional details are available at https://hr.vanderbilt.edu/systems/.

New projects

We are happy to offer CRISPR genome editing design services and/or advice for any organism or cell line with an annotated genome. We have extensive experience creating successful, highly efficient genome editing strategies in mice and we continually review the literature for new mechanistic insights and reagents that can improve project outcome. A well-informed VGER design strategy can reduce the time and effort required of you to produce your desired genome edited model and keep your research moving ahead efficiently.

As always, please either contact or Leesa Sampson at leesa.sampson@vanderbilt.edu or Jennifer Skelton at jennifer.skelton@vanderbilt.edu to initiate a project. For all other information, please visit our website at https://labnodes.vanderbilt.edu/vger.

Happy holidays!

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