



CDB SEMINAR

William C. Skarnes

The Morgan Building Sanger Institute, Cambridge, UK

Thursday, November 1

16:00~17:00 C1F Auditorium

High throughput gene targeting in the mouse

Summary

The European Conditional Mouse Mutagenesis program (EUCOMM) and Knockout Mouse Project (KOMP) aim to provide a public resource of thousands of lacZ-tagged, conditional mutations in ES cells over the next 5 years. This effort requires the design and construction of vectors and the production of targeted ES cell lines on an unprecedented scale, beyond the scope of conventional methodologies.

We have established a high-throughput pipeline at the Sanger Institute for the construction of plasmid-sized conditional gene targeting constructs through recombineering of an indexed BAC library. Our strategy combines automated vector design with a highly efficient recombineering process that involves serial liquid handling in a 96-well format. Importantly, our approach is modular, allowing us to match the specific requirements of the target locus with the optimal targeting cassette through the use of custom GatewayTM exchange elements. The inherent flexibility of the system also enables the re-use of the library of targeting vectors to keep pace with innovations in gene targeting technology and to generate other useful alleles in the mouse. Large-scale production of targeted ES cell lines is now underway and a summary of our progress will be presented.

Host:

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