

**Transgenic mouse****Methods and protocols, 2nd edition****Marten H. Hofker and Jan M. van Deursen (eds), 2011****Humana Press - Springer Protocols****Methods in molecular biology, vol 693****ISBN: 978 -1- 60761- 973 - 1****Pages: 363; Figures: 84; € 109,95**

Marten H. Hofner (from the Dept. of Pathology of the Groningen University) and Jan M. van Deursen (from the Mayo College of Medicine at Rochester, MN, USA) provided us with the valuable second edition of *Transgenic mouse*: in fact, eventhough we are in the -omics era and already equipped with the state-of-the-art techniques in whatsoever field, still we need to have gene(s) functional analysis data to understand common and complex deseases.

Transgenesis is still an irreplaceable method and protocols to well perform it are more than welcome. Here, how to get genetic modified mice (the quintessential model of so many human deseases considering how much of the human genes are conserved in the mouse and the great block of genic synteny existing between the two genomes) is analysed in deep and presented in clearly detailed step by step protocols.

One of the great advantage of gene function studies in mice is that they are performed in the whole organism and thus they are informative both for what regards the gene-gene interactions and, quite relevant, for the gene-environment interaction.

Roughly, the book is divided in three parts beginning with the strategies to get geneticaly modified mice and how to deal with mice: this is a quite interesting aspec which is

unfortunately so frequently neglected and never covered even is excellent books for otherwise merits. A great merit of this book is then the fact that the two Editors decided to devote some chapters to this basic topic! Thus, how to cryopreserve sperm, how to carry on a mouse autopsy, how to generate chimeras by embryonic stem cells aggregation are well described. The generation of conditional and induced knockout mice cover an ideally second part of the book thanks to several chapters presenting transgenic designs, inducible transgenic mouse models and how to get transgenesis by the use of lentivirus and (eventough it is just the final chapter) adenovirus-mediated gene transfer.

Transgenesis in embryonic stem cells is playing a great role in mouse transgenesis, thus the generation of a series of knock-in alleles in embryonic stem cells is presented in details. In fact, knock-in approaches to study gene function has already achieved the everyday in-use lab techniques: here, some novel developments of the technique are presented by the use of the recombinase-mediated cassette exchange. The use of DNA recombinase Cre and its recognition loxP sites allows the conditional gene inactivation in a variety of conditional knockout strategies that are well described.

I strongly suggest to have a copy of this book to those would like to enter the fascinating field of transgenesis; those already active in the field will anyhow surely find interesting aspects to deal with by comparing the techniques they are using with the suggested novelties here presented.

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