

Preface

In ovo electroporation is an unprecedented achievement in the study of developmental biology. With this method, we can now carry out gain-and-loss-of-function experiments in the desired tissue at any desired stage of development in chick embryos. The introduction of the tetracycline-regulated gene expression system and the transposon system further extended the possibility of this method, which enabled us to obtain long-term expression and to turn on and off a gene of interest at any desired stage. The method is now successfully applied in mice, aquatic animals, and even in plants for the study of developmental biology and for other purposes. Sonoporation is another useful tool, but one that uses ultrasonic waves rather than electric currents, for gene transfers to mesenchymal tissues. In this book, the application of electroporation in the various tissues and organs of embryos is presented, along with chapters that discuss gene transfers in adults.

Harukazu Nakamura
Sendai, Japan
31 July 2008

Electroporation and Sonoporation in Developmental
Biology

Nakamura, H. (Ed.)

2009, XXIX, 331 p., Softcover

ISBN: 978-4-431-09426-5