

Preface

The transgenic approach is now important in most if not all branches of mammalian biology. As a consequence students and workers come to it from a wide variety of backgrounds. The huge expansion in our understanding during the last century has made it quite impossible for anyone to have a comprehensive knowledge even of fundamental biology, never mind its ramifications. Thus, this book attempts both to summarise the subject area of transgenic mammals and also to supply the bare bones of the background information required to make the account comprehensible without recourse to other texts. The first chapter, *Overview*, is an attempt to describe the subject area in the broadest terms with the minimum of jargon and to clarify at the outset what constitutes a transgenic mammal, in contrast say to a clone or a product of surrogacy.

The treatment of transgenic mammals focuses on what might be called the theoretical aspects of the subject, all of which ultimately bear on the question of transgene expression. Thus to comprehensively understand transgene expression requires an understanding of alternative transgene configurations, of the processes that integrate foreign DNA into the chromosomes and of the various routes by which DNA is introduced into the germ line. The undoubted skills that are required to achieve these ends are only referred to in passing. The surgical skills are of course generally learned from an experienced practitioner; in the UK at least, this is a legal requirement.

The book is intended for more advanced undergraduates as well as for graduate students and postdoctoral scientists. A reasonably large number of references is given, with the aim of easing access to the literature for those who wish to pursue the subject more deeply. I hope that they may not prove necessary for those who do not. I also wish to apologise to authors whose contributions I may inadvertently have underestimated, misinterpreted or overlooked.

I have benefitted from generous assistance of various sorts from colleagues and acquaintances both here at the Centre for Genome Research and elsewhere, namely Austin and Andrew Smith, Yacine Cherifi, Tom Burdon, Chris Ferrard, Bob Wall, Ian Mather, Bill Ritchie and Ian Wilmut. Needless to say, I am responsible for all opinions expressed and any errors of fact or interpretation.

John Bishop