

Preface

This book brings together what I have found – from 37 years using mammalian cells *in vitro* in both academia and industry – to be the core concepts and techniques for success in the performance of cell culture, whether it be used to perform research, to generate and use test or model systems, or to produce biopharmaceuticals or other products.

Animal Cell Culture: Essential Methods is a successor to the second edition of the highly successful *Basic Cell Culture: A Practical Approach* [1]. However, the change of both title and publisher has provided the scope to do far more than simply revise and update an existing text. While all the basics are still here, coverage has been widened by the addition of dedicated chapters on cryopreservation, on the design and use of serum- and protein-free media, and on systems for culture scale-up.

Animal (including human) cell culture is becoming ever more important, not only in academic research (e.g. stem cells, regenerative medicine) but also in industry (e.g. for the production of monoclonal antibodies, vaccines and other products, and for toxicological testing). Thus an increasing number of scientists, technicians and students will be requiring the grounding of knowledge and skills encapsulated in this book. Similarly, the growing use of cell culture within a regulatory environment, such as in the toxicity or safety testing of pharmaceuticals, cosmetics and general chemicals, means that more and more individuals will need to work within the framework of Good Laboratory Practice, which is addressed in the final chapter of this book.

Thus it is my hope that not only will all those new to cell culture find this book a useful and concise introduction to the field, but that experienced workers will also find it of continuing use as a handy source of reference to all those tips, techniques and approaches that are at the heart of cell culture and keep the laboratory running smoothly.

Finally, my unreserved thanks go to all the authors who contributed chapters to this book. Without their unstinting efforts in sharing their considerable expertise, this book would never have moved from concept to reality.

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Hatfield, October 2010

Reference

1. Davis, J. (ed.) (2002) *Basic Cell Culture: A Practical Approach*, 2nd edn, Oxford University Press, Oxford, UK.