Preface

More than 20 years have passed since the identification of the gene responsible for cystic fibrosis (CF) and undoubtedly many milestones have highlighted this area of research. But we have to admit it, progress towards finding a way of curing the disease has been slower than we initially expected and wished.

Apparently, this is not due to a lack of research efforts in the field, since in recent years the CF research community has been producing on average ~1,500 papers annually. So, probably we still need to dig deeper and with better tools to understand further the basic biological mechanisms underlying this complex disease. Nevertheless, it is increasingly difficult to grasp and use the already wide and still growing range of diverse methods currently employed to study CF so as to understand it in its multidisciplinary nature.

The aim of these *Cystic Fibrosis: Diagnosis and Protocols* volumes is thus to provide the CF research community (and that in related fields) with a very wide range of high-quality experimental tools, as an easy way to grasp and use classical and novel methods applied to CF. Hence, it is expected that it will contribute to accelerate the advancement of knowledge in this area. The purpose is thus to offer selected "good practice protocols" with a level of technical detail which is rarely published in peer-reviewed journals. Moreover, it is expected that this information will also enable researchers to identify subtle differences regarding techniques in their own laboratories, which often account for apparently "contradictory" data in the literature. Co-authorship from both sides of the Atlantic was particularly encouraged.

In the 2002 edition of this volume and in another previous comprehensive compilation of *Methods for Cystic Fibrosis and CFTR Research*[1], a large set of classical techniques used for CF research were already covered. So, here the focus is placed on innovative methodologies (some revolutionizing our way of doing science) by describing in detail how to perform and exploit these emergent techniques applied to CF. Moreover, a complete section has been devoted to available resources such as useful software and databases, as well as cell lines and animal models, reviewed for their usefulness towards multiple purposes. Notwithstanding, the more "classical" methods can also undergo improvements and thus their most up-to-date and revised versions are also recapped here by the leading experts. All book sections are introduced by an overview discussing the applicability and practicality of the protocols with examples.

It is hoped that the methods presented and revised here will provide users with optimal working tools to address their pressing questions in the best technical way while helping all of us, as a research and clinical community, to move faster hand-in-hand towards unravelling the secrets of this (and possibly other) challenging disorder(s) and cure it.

Finally, we wish to thank all authors for their enthusiasm in joining us in this project by contributing with their best protocols to this book and also for their patience with

[1] Journal of Cystic Fibrosis (2004), volume 3 (Supplement 2), a special issue focused on "Methods for Cystic Fibrosis and CFTR Research" and The online "Virtual Repository of the Cystic Fibrosis European Network" at http://central.igc.gulbenkian.pt/cftr/vr/index.htm

our multiple requests. Special thanks to Renata Vincent for her help in dealing with the manuscripts. Moreover, we would like to express our gratitude to the whole CF community in general, researchers, clinicians and all caregivers and other professionals, not forgetting CF patients and their families, for their continuous efforts towards finding a way out of this still devastating disease. We believe that we will be there soon and we hope this book somehow contributes to getting there sooner. Then, when our goals are met, all efforts will have been worthwhile, or as the Portuguese poet Fernando Pessoa has put it, "All is worthwhile if the soul is not small".

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