
Preface

From the first report describing real-time PCR detection in 1993, the number of different applications has grown exponentially. Since quantitative PCR is the “gold standard” technology to quantify nucleic acids, thousands of articles and books have been written on both its description and its practical use. Nowadays, it is a very accessible technique, but some pitfalls should be overcome in order to achieve robust and reliable analysis. In this book, our aim is to focus on the different applications of qPCR ranging from microbiological detections (both viral and bacterial) to pathological applications.

Several chapters deal with quality issues which regard the quality of starting material, the knowledge of the minimal information required to both perform an assay and to set the experimental plan. Such issues have been described in the first six chapters, while the others focus on translational medicine applications that are ordered following an approximate logical order of their medical application. The last part of the book gives you an idea of an emerging digital PCR technique that is a unique qPCR approach for measuring nucleic acid, particularly suited for low-level detection and to develop noninvasive diagnosis.

Our hope is that a professional, endowed with the knowledge of some of the methodological issues and of some of the applications, could devise new qPCR-based approaches related to his or her area of investigation. We have tried to cover the possible qPCR methods, but of course we could not cover here all of the feasible applications. We are grateful to all of the colleagues who have contributed to the book with these manuscripts sharing their methods with the qPCR community.

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Methods and Protocols

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