
Preface

When the first edition of *Handbook of Laboratory Animal Bacteriology* was published in 2000, it was after a decade during which more formal standards, practices, and guidelines had made bacteriological examination of laboratory animals an important part of securing the quality of these animals for research purposes. At the millennium, there was an increasing common understanding on which agents to look for, while the methods on how to do it differed significantly between laboratories. None of the guidelines released during the 1990s gave any detailed advice on how to perform bacteriological study in laboratory animals. Molecular biology was in its very beginning within bacteriology, and cultivation was the tool applied by all laboratories. The better ones among these would be able to cultivate maybe 15–20% of the bacterial species present in an animal; therefore, those organisms listed in quality assurance programs were those that could be cultivated. Today, molecular biology is in many contexts taking over as *the* tool within bacteriology, and in our labs, molecular biology in some form covers most of what we do. This has shown us that laboratory animals of today harbor a range of so far non-cultivable organisms with a much larger impact on animal models than could ever be expected from some of those isolated by simple cultivation techniques. This knowledge, however, is still to be recognized among laboratory animal vendors and health-monitoring laboratories, but we hope that with this book we can broaden the understanding on which bacteria make a difference when modeling human diseases in animals and how we should characterize their presence in the animals.

The first part of the book provides information on the general aspects of bacteriology and how to sample and identify bacteria in the animals; as something new, we have tried to give brief insight into how these bacteria interfere with our animal models and the methods used to investigate this. In the second part of the book, the various bacterial species to be found in laboratory rodents and rabbits are described. While in the first edition this was divided according to cultivation and Gram staining characteristics, which was the standard then, it is now divided according to a more systematic phylum-based approach, which the new molecular

biological methods have made standard. This means that bacterial species previously regarded as closely related now may appear in two different phyla. Also, these chapters cover a range of bacteria identified to be of importance in laboratory rodents and rabbits over the past 10–15 years.

We wish to express our sincere thanks to all those master's and doctoral students, postdoctoral students, and laboratory technicians who over the years have helped us to perform all these procedures. Especially, we are grateful to the two young investigators, Lukasz Krych and Camilla Hartmann Friis Hansen, who in our labs have been the driving forces in describing the impact of bacteria on animal models of human diseases. Last but not least, we want to thank our wives, Inge and Mette, for not being too annoyed over the nights we spent writing this book.

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