using hypergeometric probability and 168 ribosomal genes were grouped into different clusters.

Homology based algorithms for the alcohol dehydrogenase gene structure of *Drosophila melanogaster* and prediction of gene variants were discussed by Michael Sievers (Paracel, Pasadena, CA, USA) and Tony Frudakis (DNAPrint Genomics, Sarasota, FL, USA). Using re-sequencing procedures and proprietary software tools Frudakis provided the data for several SNPs and haplotype maps for various genes involved in xenobiotic disposition.

Final thoughts

To conclude, the meeting provided an overview of the current status of world-wide genomic sequencing efforts and the wide range of multidisciplinary technologies that is available to exploit this data. Large-scale data analysis and target validation continue to be major bottlenecks in drug discovery, and so the take-home message from this conference has to be that the integration of genomics, proteomics and informatics is the key to fulfilling the promise of the post-genome era.

These opinions are exclusively of the author and do not reflect those of PerkinElmer.

Drug Targeting Technology: Physical – Chemical – Biological Methods

Edited by Hans Schreier, Marcel Dekker, 2001, Price US$150.00, 294 pages in hardback, ISBN 0-8247-0580-7

Rapid advances in genomics, combinatorial chemistry and HTS should result in vast numbers of new therapeutics in coming years. These new drugs hold the promise of being more effective for the treatment of disease. With increased biological activity, however, the potential for side effects can also increase. To avoid undesirable side effects from these highly active drugs, and to keep the dose and expense low, it would be advantageous to target them only to the diseased organ or tissue and to avoid the remaining periphery. However, at this point there are few, if any, drugs that are 'magic bullets', which unfailingly hit only the target site of action. Drug targeting itself can be looked at in several different ways, ranging from simply protecting the drug as it passes through the gastrointestinal tract, to direct targeting to a specific organ or tissue. Equally as challenging are strategies that seek to avoid adverse effects of the drug on tissues or organs that are not the intended site of action.

This book is a good introduction to the various methods of drug targeting. According to the preface, the intention of the Editor was not to cover comprehensively the topic of drug targeting, which would be difficult to accomplish in such a short volume. Rather, this book is intended to be a 'reader for interested scientists, experts and students who are open for lateral views beyond the boundaries of their own field of interest'. The book gathers together monographs that cover many of the most widely used drug targeting techniques. The old-fashioned concept of time-release capsules through the use of enteric coatings is included in the same volume as the more modern concept of modified viruses to deliver gene therapy. It is also the Editor's hope that the book will cause pharmaceutical practitioners to consider crossing the boundaries between these various approaches and to come up with better therapies. It does achieve its purpose in this regard; this rather short volume could easily serve as an introduction to the topic for, say, a relatively new medicinal chemist. For those more familiar with the concepts, multiple approaches are presented here in a fairly homogeneous format so boundary crossings do come to mind.

There are over 1000 references included, so if the reader has an additional interest in a particular topic this is an excellent jumpstart for research. Moreover, the majority of the references are less than 10 years old. The field is moving quickly, so timely references are particularly useful. Despite all the information, the writing is such that it is relatively easy to read; I managed to read the entire book in two weeks of short evenings. The chapters are homogeneous enough to be taken together as a whole, yet complete in themselves so that each can serve as an introduction to the topic at hand. The index is not particularly extensive, but the major topics are easy to find.

In summary, this book would make a good addition to the library of any practicing scientist in the pharmaceutical or biotechnology industry, in particular those that are directly involved in drug delivery or drug targeting. For those of us that are already involved in the field, it serves to make us think about the traditional boundaries between various aspects and the possible ways of crossing them. For those with a peripheral interest, I believe this book could serve as an excellent introduction.

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