
Book Reviews

Seeberg, E. and Kleppe, K. (eds.): Chromosome Damage and Repair. Nato Advanced Study Institute Series. Series A: Life Science, vol. 40. New York: Plenum 1981. i-xiv, 623 pp., several figs. Hard bound \$ 85,40.

I was somewhat misled by my own misinterpretation of the title of this book into expecting the majority of articles to deal with the eukaryotic chromosome. This is not the case; by far the largest part of the book deals with damage and repair of bacterial DNA. Having got over this initial disappointment, I approached the book from a different point of view and was eventually rather satisfied with both the scope and the contents.

If you are convinced that DNA damage leading to somatic mutation forms one of the important steps in the development of cancer and if you are concerned about the relative risk to the population from different environmental mutagens, then you realize just what an enormous amount of information is required before a coherent picture of the relationship between DNA damage and carcinogenesis can be derived. This book deals with but a small part of the information required, but it deals with that part in a most comprehensive way. It covers the different types of DNA damage inflicted by a variety of chemical and physical mutagens, the repair of the damage by excision, recombination, post replication, error-prone, error-free and SOS repair pathways. It considers the induction and repair of damage in 'core' and 'linker' DNA; the replication of damaged DNA and the role of replication in the fixation of the mutagenic lesion. There is a section on the application of recombinant DNA techniques to the study of mutation and

repair, and of course, one on repair deficient cancer-prone human disorders. The studies of the association between the mutagen sensitivities of these human disorders and the repair deficiencies have demonstrated how complex the DNA repair pathways really are. The studies have also revealed how important DNA repair is to human health, a point brought out most clearly in the article on DNA damage and carcinogenesis in the last section of the book.

The book is somewhat heterogeneous in that it combines longer articles which review specific topics, and formed the lectures of the course from which the book is derived, with brief research notes presented during discussion sessions. I liked the review articles which, in total, provide a coverage of the complete field at a 1980 date level and are given by specialists. I was less happy with the brief research notes which are often much too short to present the data and reasoning properly. I found these brief notes distracting and, as I suspect that the data have most probably been reported more fully elsewhere, I think that the book would have been more concise, more readable and cheaper, though just as good, without them. Make no mistakes, I am not knocking the content of the notes, merely their brevity and the format of the book. That said, I must conclude that the book gathers together in one volume a large amount of information and ideas and it should be a useful addition to the library of anyone who is interested in DNA damage, repair, mutagenesis, genetic toxicology and the induction of cancer.

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