Book reviews

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Report of the UKEMS Sub-Committee on Guidelines for Mutagenicity Testing

Parts I and II. Edited by B J Dean. (Pp vi+178/viii+260; figures+tables. £5.20/£8.50.) Swansea: UKEMS. 1984.

The UK Environmental Mutagen Society (UKEMS) under the chairmanship of Brian Dean formed a Sub-Committee to define and describe procedures for mutagenicity testing required in the process of chemical registration. The main objective was to identify the factors in each assay that were regarded as critical for the acquisition of scientifically valid data. This included for each test system a definition of minimal criteria, criteria for positive results, criteria and extent of testing to identify a material as non-mutagenic, specification of modifications to the standard test procedures, and proposals for regular updating of the test systems and protocols.

In the first volume six assay systems are described and discussed: bacterial mutation assays, *in vitro* chromosome aberration assays, gene mutation assays in mammalian cells, recessive lethal mutations in *Drosophila*, *in vivo* cytogenetic assays, and dominant lethal mutation assays. The last chapter outlines the framework of supplementary testing procedures. It gives guidance for supplementary tests to be chosen on the basis of results obtained in the initial battery of tests, or on the basis of eventual use and distribution of the tested material. The questions of test validation and indication of carcinogenic potential by mutagenicity tests are briefly discussed at the end of the last chapter of part I.

The second volume deals with six additional test systems: assay for DNA repair in bacteria, genotoxicity studies using yeast cultures, unscheduled DNA synthesis, sister chromatid exchange in cultured cells, *in vitro* cell transformation assays, and mammalian germ cell cytogenetics. Three further chapters are dedicated to specific applications of microbial tests, namely to detect mutagens in food, urine, faeces, and body fluids as well as to detect nitrosation products.

For each test system the principles and the genetic basis of the procedure are explained, followed by a practical description of the test material and protocol, not so much as a 'cook-book' type recipe but by stressing critical factors, pitfalls, and possibilities for modifications. Data presentation and interpretations are suggested. Finally, the relevance of the

data in terms of mutagenic potential is discussed. The consistent and logical structure of the individual chapters, as well as the concise presentation of the genetical background for each assay, are a special merit of the book. It will be beneficial to the reader that the relevant literature publications are appended to each chapter so that further entry into the particular field is facilitated. The book is only sparsely supplied with illustrations: however, the few given, for example, types of aberrations, are clear and informative.

The UKEMS guidelines for mutagenicity testing are addressed to both experimenters (especially newcomers to the field) and to members of governmental bodies involved in legislation and decisions related to the registration of chemicals. The readership should not be restricted to the UK since the facts and criteria outlined in the two volumes are of a general nature and will give valuable assistance to everybody concerned with mutagenicity testing regardless of national requirements for chemical registration.

ILSE-DORE ADLER

Monoclonal Antibodies and Functional Cell Lines. Progress and Applications.

Edited by R H Kennett, K B Bechtol, and T J McKearn. (Pp xvii+426; figures+tables. \$49.50.) New York: Plenum Press. 1984.

The editors have continued where they left off in 1980 with their initial volume 'Monoclonal Antibodies—Hybridomas: A New Dimension in Biological Analysis'. In providing a book in the same trend which, on the one hand exemplifies the applications of monoclonal antibodies and yet on the other provides sound technical advice on the actual methodology involved, they have maintained the appeal of their original volume. A significant number of manuals are now available on the technical aspects of monoclonal antibody production. Similarly a vast number of publications have accrued on the use of these reagents and it is now virtually impossible to keep abreast of the field. It is ideal to have access to a text like the present book by Kennett and his colleagues, which provides information not only on the finished monoclonal products but also on the detailed laboratory efforts