Interaction of Steroid Hormone Receptors with DNA

Edited by M. Sluyser

Ellis Horwood; Chichester, 1985

242 pages. $46.50, DM.115.00

The field of steroid hormone biochemistry is rapidly expanding and is yielding important information about the mechanisms which control gene expression. The present volume is set in this context and aims to provide a précis of current ideas. The title implies a rather narrow focus, although the editor reassures the reader that the book 'is broader in scope than the title suggests'. Fortunately, this statement is readily vindicated in the chapters that follow.

The book opens with an extensive review of the evidence which has undermined the long held view that steroid receptors migrate from the cytoplasm to the nucleus upon hormone binding, and succeeding authors consistently come out in favour of a nuclear model. Indeed, despite the problems invariably associated with a multi-author work, Dr Sluyser has marshalled his forces well, and the chapters combine to form a concise and logical discussion of steroid action. Inevitably, some of the points made in certain sections are repeated elsewhere but this serves to reinforce rather than to detract from the work. Surprisingly, perhaps, the least helpful chapter is that written by the editor, Sluyser, who spends an unnecessary amount of time in speculation about steroid action and the mechanisms which have provoked steroid evolution. Fortunately, this pattern is not repeated, and subsequent chapters are devoted to explanations of structure-function relationships in steroid molecules, interactions between steroid-receptor complexes, DNA and chromatin, and the biochemistry of the receptors themselves. Each section concludes with a useful summary and most are very well illustrated and referenced (chapter 1 has 255 references!). In addition, each chapter is supplemented with numerous examples to substantiate the conclusions drawn, although the extensive catalogue of steroid structures offered in chapter 3 may be slightly bewildering!

The gradual and continuing elucidation of the structure of steroid receptors is eloquently detailed (chapters 5 and 6) and these sections also provide a useful overview of the increasing range of techniques which are at the disposal of the receptor biochemist. Indeed, the methodological details provided in each chapter serve to emphasise the diversity of approach which has now been employed to address the basic problem of steroid action.

In summary, I feel that this is a book which will be a valuable source of reference to all in the steroid field and which represents an easily digestible overview for endocrinologists in general.

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