

## *The 2-5A System*

### Molecular and Clinical Aspects of the Interferon-regulated Pathway

Edited by B.R.G. Williams and R.H. Silverman

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xxiii + 478 pages. £52.00

In the late 1970s a series of elegant experiments carried out in Dr Ian Kerr's laboratory at the National Institute for Medical Research, London, identified and chemically characterized a new series of naturally occurring oligonucleotides with the novel structure:  $p_x(A2'p)_nA$  (where  $x = 2$  or  $3$  and  $n > 2$ ), which are synthesized by an interferon-inducible enzyme 2-5A synthetase. These compounds, which have 2'5' phosphodiester bonds between adjacent adenylate residues, have been shown to be involved in the antiviral actions exerted by interferons owing to their ability to activate a latent endoribonuclease. This enzyme degrades mRNA and rRNA in interferon-treated, virus-infected cells and this inhibits protein synthesis and virus replication. The importance of these discoveries, and the excitement generated by this field, provided the impetus for the organization of the Sixth International Symposium of the Research Institute of the Hospital for Sick Children, Toronto, in June 1985 on the 2-5A system. This book contains the Proceedings of that meeting in the form of 51 research papers from the major laboratories active in the field.

The topics described have been divided into 5 sections, dealing with the natural occurrence of 2-5A and related material, physical, chemical and immunological approaches to the 2-5A system, cloning of genes for 2-5A synthetase and other interferon-regulated proteins, molecular mechanisms of interferon action, and clinical relevance

of the 2-5A system. In spite of the title of the book not all of the papers are about 2-5A, particularly those dealing with cell growth regulation, differentiation and the relationship of interferon action to the expression of cellular proto-oncogenes. This reflects the fact that interferons exert their multiple effects on cells by a variety of mechanisms and there is very little convincing evidence for the involvement of 2-5A in cellular growth control (other than as a general inhibitor of protein synthesis). The editors have wisely avoided restricting the topics presented to those only concerned with the roles of 2-5A synthetase, 2-5A itself and the 2-5A-dependent ribonuclease in the antiviral actions of interferons and the book therefore provides a useful and reasonably up-to-date sampling of many of the currently active areas of interferon research.

The format is camera-ready copy, prepared by the authors. This no doubt has many advantages with regard to speed of publication but the absence of refereeing or editing procedures has inevitably resulted in highly variable standards of preparation and scientific quality. There is a good, detailed index of over 20 pages. This book is likely to be in demand by many people interested in the interferon field although, at £52, it is unlikely that many individuals or even libraries, at least within the impoverished British university system, will be motivated to buy it.

Mike Clemens