

The Pharmacology of Immunoregulation

Present Concepts as a Basis for the Development of Immunopharmacological Agents

edited by
G.H. Werner
and
F. Floc'h



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Present Concepts as a Basis for the
Development of Immunopharmacological Agents

*Proceedings of the Rhône-Poulenc
Round Table Conference, held in Paris
November 30th to December 2nd, 1977*

EDITED BY

G. H. WERNER

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*Rhône-Poulenc
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Preface

“Le principal et plus fameux sçavoir de nos siècles, est-ce pas sçavoir entendre les sçavans? Nous ne sommes, ce croy-je, sçavans que de la science présente, non de la passée, aussi peu que de la future.”

Michel de Montaigne

This volume contains the Proceedings of the Rhône-Poulenc Round Table Conference, held in Paris in December 1977. It was an attempt to confront the present, still largely empirical, approaches to a pharmacological modulation of the immune responses with the rapidly increasing knowledge of the natural mechanisms of regulation of these responses.

The enthusiastic participation of the invited speakers and discussants provided an eloquent demonstration that such a confrontation was indeed timely. During these three days, five sessions were devoted to topics ranging from fundamental studies of the cells and factors constituting the immune system, to investigations of the mode of action of known immunosuppressive or immunopotentiating drugs or substances. In the sixth and final session, the summary of the five preceding ones was presented by rapporteurs and a projection of the future of the immunopharmacological drugs of the 21st century was made.

It is hoped that this volume will recapture the liveliness of the discussions which followed authoritative presentations by eminent immunologists. Also included within each session are papers which, through lack of time, could not be followed by a discussion. This volume is, of course, not a textbook and it cannot be expected to exhibit the exhaustive and homogeneous character of a single-authored work.

Our warmest thanks go to all the speakers and participants for their active cooperation in making this conference a highly successful scientific event. We are especially indebted to Drs. A.C. Allison, J.F. Bach and A.J.S. Davies for their help and advice about the programme of the conference. We express our gratitude to the Research Management of the Health Division of the Rhône-Poulenc Group of Companies, and particularly to Dr. G. Jollés for very generously sponsoring the conference and entrusting us with the task of organizing it.

Tape transcription of the presentations and discussions was

efficiently performed by Dr. Mary Firth. The expert assistance of the staff of Academic Press Inc. (London) Ltd. in producing this volume is gladly acknowledged.

May we finally express the hope that, around year 2000, the Rhône-Poulenc Company will again devote a round table conference to immunopharmacology? This field will then probably look somewhat different from what we may now imagine but we can be certain that the importance and usefulness of a constant interaction between fundamental research, clinical practice and the strategy of drug design will still be as great as they are now.

G.H.W. & F.F.

“Die Wissenschaft giesst oft dann ihren reichsten Segen über das Leben aus, wenn sie sich von demselben gleichsam zu entfernen scheint.”

Wilhelm von Humboldt

Opening remarks

G. Jollés

Director of Research, Health Division, The Rhone-Poulenc Group of Companies

It is my privilege this morning to open this first Rhône-Poulenc Round Table Conference on Immunoregulation.

Why a Round Table? Why Immunoregulation?

Most of you certainly know that Rhône-Poulenc as the largest French chemical Group with an important Health Division, has always been very research-minded and, as a matter of fact, many major therapeutic discoveries in pharmacology and chemotherapy, on the central nervous system, in parasitology, microbiology and cancerology originated in its laboratories. Over the years, however, the methods of medicinal research are changing: those who don't wish to stick to the "me too" products, those who wish to achieve some true therapeutic innovation, have more than before to go upstream, where the springs of the new fundamental facts are; they should not stay up there for ever: they have to return and try to bring back with them this kind of knowledge and to use it to fertilize their own territories and to produce there health and progress.

As an industrial Company active in the therapeutic area, we feel that it is our duty to act as a catalyst for the encounter of fundamentalists and people more devoted to application. We want to be better informed of the new facts, to become more sensitive to major discoveries which may remain hidden to us because of their high specialization and we wish to give to the more academically oriented scientists an opportunity to contribute to the actualization of their research at the level of more pragmatic applications.

These are the reasons why we have arranged this meeting which, organised as a Round Table, should mix scientific presentations and discussions in order to help us to plan therapeutic achievements; and this appears very clearly from the guidelines which have been added to the title of our Round Table: "present concepts as a basis

for the development of immunopharmacological agents”.

Now why immunoregulation, why immunopharmacology?

One of the areas where a huge amount of new data has been accumulated in recent years is certainly immunology; if specific immuno-active agents are already widely used in therapy, the more sophisticated processes which are implied in the regulation of the very subtle systems controlling the immunological equilibrium or contributing to the enhancement of the immunological reactions are only reluctantly disclosing their secrets.

Major progress has been achieved but the transfer of all that new knowledge to the level of pragmatic medicine and drug design has not been made yet. A broad survey easily indicates the high potentiality of immunology for therapeutic fields like cancerology, bacteriology, virology, parasitology or rheumatology and, as length of life is increasing, it may find major applications in areas like geriatry; but the linkage between these therapeutic fields and the answers obtained in the various biological screening systems set up *ad hoc* are far from being evident.

The list of topics to be discussed in the forthcoming sessions — maturation and cell interactions, suppressor and amplifying systems, immunocompetence, metabolism, molecular and cellular mechanisms — indicate how widespread are the aspects to be studied and how subtle immunoregulation still appears today.

Because of the high potential of this new approach to many domains of medicine and because of the real fermentation broth for scientific ideas which immunology represents today, we felt that immunoregulation and immunopharmacology would appear as one of the most exciting substrate for a meeting largely open to academic discussion within the interests and the aims of an industrial Company.

We face a dense programme for 3 days which has been carefully established by Dr. Werner with the precious help of many of you. We face 3 days of intensive work but I know that you are all in love with immunology and that you will not mind spending so much time with it even if the City of Paris may try to tempt you by its own charm.

I wish to thank you all for joining this meeting in spite of your numerous duties and the long distance many of you had to travel to be with us this morning. I wish to thank Dr. Werner who took with his usual efficiency and kindness the really heavy burden of the scientific and practical organization of this Round Table.

I hope that our meeting will add something to a better understanding of the immunological problems, that you will feel

rewarded for your coming by the results of the discussions and exchanges you will have and I also hope that those who came from beyond our frontiers, will return to their countries with the best possible memories of our Company, our City and France.

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Session I

**B & T lymphocytes:
maturation and cell interactions**