
**EDITORIAL**

## The 50th RICT Meeting: when Chemistry and Biology meet

Virtually every drug is, to begin with, a molecule capable of interacting with one or more proteins *in vivo*. Even though many additional attributes are required in order to turn a binding molecule into the active ingredient of a successful pharmaceutical product, the identification of relevant target proteins and the isolation of specific binding molecules represent crucial steps in the drug discovery process.

The "Golden Jubilee" of the "Rencontres Internationales de Chimie Thérapeutique" (RICT) will focus on "Interfacing Chemical Biology and Drug Discovery". Chemical Biology can be defined as the use of chemical tools to unravel biological processes. The chemical approach to Biology may not only contribute a quantitative framework for the description (and prediction!) of complex biological events, but also tools for the generation of probes and binding molecules. Indeed, a part of the Congress will focus on experimental and theoretical approaches for the study of molecular interactions, exploring molecular space for the isolation of protein ligands and for the development of new drugs.

Most pharmaceutical agents on the market are either small organic molecules (typically smaller than 600 Daltons) or therapeutic proteins (typically larger than 20'000 Daltons). There is, however, a growing scientific and applicative interest in molecules of intermediate size (i.e., 1000 to 3000 Daltons). In this context, peptides and peptide derivatives offer unique opportunities to "drug" targets, which may be elusive for other classes of pharmaceutical agents. Very large combinatorial libraries of peptides can be constructed and screened, using biological or biochemical methods (e.g., phage display, mRNA display). Chemical ingenuity and pharmaceutical vision are needed, in order to convert initial hits into pharmaceutical products. Leading scientists in the field will guide us through some of the most exciting developments in the field.

The conference will also feature lectures on targets and pathways. The characterization of biochemical pathways makes increasing use of chemical tools, such as inhibitors, probes or even strategies for selective chemical modification of proteins of interest. The target validation process is a long journey, which may only end when suitable drugs are developed and introduced into the market.

The organizers of the RICT Meeting have, once again, put together an excellent program, with leading researchers from Industry and Academia. The 50th RICT meeting promises to be one of the most attractive Medicinal Chemistry events of the year. The seminal interaction among Chemistry, Biology and Pharmaceutical Sciences will facilitate the discovery and development of the drugs of the future.

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