Andrew Harris, Darren Locke (Eds): *Connexins: A Guide*

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When I first heard of the publication of a new book on connexin, the proteins responsible for the formation of gap-junction channels, I was quite puzzled as there seemed to be no shortage of such monographs having appeared during this decade and another one hardly needed. Examination and reading of the book, however, has convinced me of the contrary. For one thing, Harris and Locke, the two editors, had in mind to produce not just a collection of review articles contributed by the usual suspects, but a true reference book that would stand the test of time and, so it seems to me, they may have well succeeded in their effort.

Connexins have been studied as a family for over two decades, but interest in the distinctive structure they form, the gap junction, has lasted for over 40 years. With the discovery of human genetic diseases linked to connexin mutations and the increasing evidence that functional changes of connexins may be also associated to pathological conditions of the cardiovascular system and the brain, which are the main health concerns in developing countries, it is safe to predict that research on connexins and on drugs that modulate their channel properties has a bright future. The book is broadly subdivided into parts: “Fundamentals of connexin biology”, which reviews the molecular biology, structure, biochemistry, electrophysiology, pharmacology, and gating of this diverse family of channels; and “Connexins in organ systems and processes”, which provides a sweeping overview of connexins in their physiological habitat. Perhaps the editors should have adopted a balder and more original approach, but it is also a fact that such an encyclopedic layout has its advantages. First and foremost, each chapter is and will

remain an invaluable source referencing primary articles that span over three decades of gap-junction research. Second, the basic features of connexins and of the channels they compose are scrutinized with a magnifying lens to offer the most complete picture of our current understanding and knowledge gaps in this area. It is a pity that the crystal structure of a connexin channel, which is the most remarkable achievement of the decade, was described just after publication of the book; yet this breakthrough does not diminish the impact of a wealth of data summarized in Chapters 2, 3, and 7.

On the weak side, in the second part, the description of certain organs only with respect of connexin expression is of limited interest because of a too narrow approach and these chapters are likely to have a shorter half-life as reference articles. Of course, we now know, thanks to mouse and, especially, human genetics that certain connexins exert crucial functions and that their failure is associated to a number of human disorders with a well-defined phenotype. Despite this reservation, all chapters have been carefully prepared and it would be difficult to single out the most readable ones, although it may be clear by now that my preference goes to those making Part 1.

The book has been well edited, and the efforts made by Harris and Locke to avoid the stylistic discrepancies that often plague other collections of essays are a plus. There is also a CD, containing the illustrations of most chapters, which comes as a bonus with the book.

In summary, this is a most welcome addition that I recommend without hesitations to specialists and students joining their labs, as the reference book in the field. It is to be hoped that “Connexins: A Guide” will also be considered by libraries (if they still exist in Google time) of Colleges, Universities and Departments that emphasize the study of cell biology.

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