

Signal transduction protocols, 3rd edition**Louis M. Luttrell and Stephen S.G. Ferguson (eds)****Humana Press – Springer Verlag, Heidelberg****Methods in molecular biology, vol. 756, 2011****ISBN: 978-1-61779-159-8****Pages 444; Figures 89; €109,95**

The fascinating world of signal transduction is deeply, and clearly, investigated in this book edited by two leading scientists, Prof. Louis M. Luttrell (Department of Medicine & Biochemistry & Molecular Biology, Medical University of South Carolina at Charleston) and Prof. Stephen S.G. Ferguson (Robarts Research Institute, The University of Western Ontario at London, Ontario). The editors were able to put together twentyfive chapters taking the readers to pass through a needed overview (five chapters), the receptor-ligand interactions (two chapters), the receptors-receptors interactions (four chapters), the receptor-effector coupling (four chapters), the spatial control of signal transduction (five chapters), the protein-protein interactions (five chapters). After reading the book, the wunderbar idea that an alchemical force is acting when changing a physical or chemical stimulus into a chemical or elettrochemical signal disappears, it is vanished to be replaced by an intense wish to enter this field of research try-

ing to understand and molecularly dissect the networks regulating the cascade of events able to accomplish this phenomenon. The fact that we are speaking of the third edition of the book testimony itself both of the quality of the book and of the topicality of the subject. As it can be expected, the role of the G protein complexes is central and crucial to the understanding of the several types of interactions that framework the phenomenon of signal transduction and thus nearly all the chapters are considering one side of the multifaceted world of these molecules. At this regard the FRET (Fluorescence Energy Transfer) and BRET (Bioluminescence Energy Transfer) techniques are clearly presented so that even those entering the field can take profit from these two techniques. Already experienced cytochemists will find new ways to apply both FRET and BRET techniques (real time, quantitative, simultaneous imaging). What I found of extreme interest are two hot themes, that of the spatial and temporal characteristics of signaling events and that of the temporality, the persistence (the scheduled life-time) of signals within the cell. The book is mainly satisfying the technical point of view of the phenomenon and this is precisely what we need to get new and more sophisticated data to advance conceptually in its understanding and on how the phenomenon is inflected in hundreds of different ways.

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