

**Sertoli Cells - Methods and Protocols**  
**Marco G. Alves, Pedro F. Oliveira (eds.),**  
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The mammalian somatic cell providing the physiological milieu to germ cells growth and differentiation is the Sertoli cell, named after the Italian physiologist Enrico Sertoli. Sertoli described for the first time this functionally multitasking cell in 1865 (when he was 23 years-old!) in human testicular tissues while ending up his medicine studies at the University of Pavia; at that time Milan was not yet a University school, it just hosted a veterinary high school. Till those years Pavia was THE university of the Austro-Ungarian Empire (Italy was put together just in 1861) and was attracting the best minds; among Sertoli's fellow students there were other two brilliant geniuses, Giulio Bizzozero (1846-1901) and Camillo Golgi (1843-1926) who do not deserve any additional presentation! From the initial assigned role of "nurse cell", all over the centuries a huge bibliography added new functions and roles played by this multitasking cell type and now Marco G. Alves and Pedro E. Oliveira did a great job pro-

viding the scientific community with a valuable source to update our knowledge. The preface they write down is simply an additional interesting chapter, rather than the usual page committed to tell the objective of the book, providing the reader with the conceptual framework designing the chapter's topics. They explicit the content of the 20 chapters telling that just two are reviews: Chapter 11 (authored by Oliveira himself with some other colleagues) dealing with the molecular mechanisms controlling the nutritional role played by the Sertoli cells as "nurse cells" and chapter 17 unavoidably devoted to *in vivo* assay to monitor the integrity of the blood-testis barrier that the astonishing Sertoli cells are able to assemble. Thanks to the functional multiroles the Sertoli cell is able to play (structural, secretory, phagocytic, immunomodulating, just to mention a few of its unique features), the Sertoli cells can function as models in several kind of studies: this fact explains the need for standardized protocols for their *in vitro* culture after isolation and purification (several chapters provide detailed protocols to get successful Sertoli cells cultures). As usual for the *Methods in Molecular Biology* series, each chapter include an overview of the studied topic and then "a list of the necessary materials and reagents, step-by-step, readily reproducible laboratory protocols and tips on troubleshooting and avoiding known pitfalls" as the loyal customer of this Springer

Protocols series already know. Phagocytosis and autophagy are crucial activities ruled out by a cell that is overseeing the entire process of spermatogenesis and patrolling the microenvironments it is itself assembling, both structural and functional; not surprisingly several chapters are updating our knowledge on these processes and the molecular mechanisms sustaining their correct execution. Assessing Sertoli cell metabolic activity (Chapter 12) as well as their proteomic profiling (Chapter 13) is a necessary prerequisite to well understand their capacity to assemble the blood-testis barrier (Chapters 16 and 17): the study of its integrity is a fascinating world not only for reproductive biologists. A wide range of xenobiotics are able to exert deleterious effect on the whole male reproductive systems and thus a chapter devoted to the toxicology of the Sertoli cells is welcomed.

The pictures illustrating the book are all of high quality and the readers will be satisfied and certainly not disappointed while running through the chapters: exactly in the same manner you cannot stop of eating chapters or cherries, one is calling the other!

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