

Special Issue

Molecular Biology of Spermatozoa

Message from the Guest Editor

The spermatozoon is a very special cell; it is generated in the male reproductive tract, and has to travel to the female reproductive tract, of another individual, to fertilize an egg. This amazing journey, however, has to be able to respond and adapt to dramatically changing environments. Thus, empirical approaches for sperm conservation are being substituted by approaches based in translational research. As a transcriptionally-silent cell, spermatozoa largely depend on post-translational modifications of proteins to regulate their functions; among these regulatory mechanisms, redox regulation plays a relevant role, and deregulation of redox homeostasis is behind male factor infertility. With the incorporation of “omics”, lipidomics, epigenomics, proteomics, and metabolomics to the study of the spermatozoa, the knowledge of sperm function has increased significantly in the last decade; developments in image analysis and advanced flow cytometry have also significantly contributed to this advance.

Guest Editor

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