Argonaute proteins
Methods and protocols
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Before reading these few lines reviewing the Argonaute family proteins (what they are and what they do) I strongly advise the reader to go through both the greek myth and two posters: Production and actions of small RNAs by V. Narry Kim and Mikiko C. Siomi at www.nature.com/nrm/posters/smallrnas and the linked review article by V. Narry Kim, Jinju Han and Mikiko C. Siomi *Biogenesis of small RNAs in animals*, Nature Rev. Mol. Cell Biol. (10:126–139, 2009); *Regulation of microRNA biogenesis, function and degradation* at www.nature.com/nrg/posters/regulation with its linked review article by the same AA, Jacek Krol, Inga Loedige and Witold Filipowicz *The widespread regulation of microRNA biogenesis, function and degradation*, Nature Rev. Genet. (11:597-610, 2010).

Both posters are produced thanks to the support of two companies, the first thanks to abcam (http://www.abcam.com) and the second thanks to *Regulus Therapeutics* (http://www.regulusrx.com). Having said that and being the reader acquainted both of the Argonauts warriors heroic undertaking while helping Jason in his quest to find the Golden fleece (a very messed up story to tell about, much more intricated when compared to a proteomic interactome ! that however makes it easier to understand the role of the Argonaute proteins !) and of some of the details so clearly shown in the two posters highlighting the intricate RNA interference system of gene regulation, now it can be fully appreciated the high quality of the book, the so well organized and sequentially logic presentation of the chapters.

Twenty chapters, spanning in model systems investigated (yeast, Caenorhabditis, Drosophila, mouse, human) as well as in techniques (purification of proteins, proteomics, chromatin immunoprecipitation, native gel analysis, live cell-imaging) and giving a very update and detailed presentation of the entire Argonaute family members, their evolutionary conservation in Eukaryotes, mechanisms of action, methods to study *in vitro* and *in vivo*, one chapter following the other without any partition (really not necessary). Argonaute proteins (Ago) comprises two subfamilies, Ago and Piwi, and interact with the small RNA molecules driving the RNA interference: nearly one third of the human gene are regulated, either transcriptionally or post-transcriptionally, by an intricated apparatus controlling their activity and the Ago proteins are the masterpiece of this architectural relationship. Going throughout the book, it will become apparent the astonishingly fast progression in our knowledge since the Andrew Fire paper (Nature 391:806-811, 1998), the 2006 Nobel Prize in Physiology or Medicine (http://nobelprize.org/nobel_prizes/medicine/laureates/2006/) awarded jointly to Andrew Z. Fire and Craig C. Mello, the widespread use of RNA interference as one of the main biomolecular tool in research and already in translational medicine with the use RNA interference therapeutics in clinical trials. *Argonaute proteins are the central effectors of RNA interference* write the Editors in their preface and thus each biologist and physician, either involved in research or in clinical application will find irreplaceable this book.

Hope the reader will get his own copy of this exciting book.

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