



## Book review

**Recent Advances in Angiogenesis and Antiangiogenesis, D. Ribatti (Ed.). Bentham Science Publishers ([www.bentham.org](http://www.bentham.org)) (2009). 141 pp., 22.2MB, \$129 (individual price, non-library price), ISBN: 978-1-60805-004-8**

The move to digital publishing has resulted in many changes in how we receive our scientific information. Many journals now are only published in digital format and no longer appear as printed issues or volumes. To a degree this is dictated by economics and convenience. The authors see their manuscripts online rapidly and these can then be accessed easily (free or for payment). The same process is now increasingly being applied to the publication of e-books. The publisher saves on the cost of printing, binding, storage and distribution of hardcopy. If you want to purchase an e-book, you pay by credit card and then receive a link enabling you to download a PDF file of the book to your computer. The new generation of researchers and students no longer needs to visit a library. As a bibliophile I personally miss the convenience of a fine printed volume that can be flicked through wherever I am and which will find a place on my bookshelf, rather than a DVD that lacks any character and will likely be unreadable as digital formats and storage change. I personally prefer the touch of handling a book and in general dislike reading books on computer monitors or electronic readers, but such is the tidal wave of "progress" that I feel somewhat an anachronistic academic and know that this trend is inevitable in the scientific publishing sphere. I understand that e-books now constitute an estimated 3–5% of the total number of published books, and the trend is clear and inevitable.

Ten years ago Acta Histochemica published a review of a meeting held in Milan, Italy, on the biological basis for antiangiogenic therapy (Meade-Tollin, 2000) and it is incredible the amount of research that has been undertaken during this decade and which is summarized in the current book consisting of 14 chapters written in the format of scientific articles (apart from the lack of keywords). There is a very complimentary preface written by Napoleone Ferrara (Genentech), who is perhaps the leading authority regarding the clinical introduction of antiangiogenic drugs for tumor treatment. Judah Folkman in 1971 proposed the concept of the therapeutic potential for antiangiogenesis drugs that could lead to the regression or dormancy of solid tumors. In recent years there has been an avalanche of basic scientific research on angiogenesis and antiangiogenesis and we have witnessed the approval of several novel drugs for treatment of solid tumors. This has been accompanied by improved identification of patients who might respond to such antiangiogenesis treatment. The main current interest is to identify the molecular pathways in light of the increasing evidence of the biocomplexity of the mechanisms involved.

The 14 chapters cover a wide range of topics including the role of semaphorins and their receptors, plexins and neuropilins in cell adhesion in the extracellular matrix in angiogenesis. Other topics include the roles of osteopontin, mesenchymal stem cells, thymus, circulating endothelial cells, cellular shock (such as low pH, hypoxia, inflammation, radiation, chemotherapy), various models (zebrafish, multiple myeloma, neuroblastoma) and tumor targeting with transgenic endothelial cells and vascular disrupting cells.

The main problem in developing antiangiogenic agents is associated with the enormous biocomplexity of the molecular pathways at different stages of tumor development. Different stages may involve different angiogenic factors for their blood supply. In clinical practice the new antiangiogenic drugs can prolong the lives of patients, but only with limited degrees of success and the future may involve use of a series of different antiangiogenic drugs rather than a single therapeutic molecule.

This book provides a comprehensive update on the state of our knowledge on angiogenesis and antiangiogenesis and will provide a good reference source for basic scientists, clinicians and oncologists. This is a very rapidly moving field with enormous interest owing to the clinical potential of finding a new therapeutic treatment for cancer.

There is much current literature that graphically explains the complexity of the biomolecular pathways involved in angiogenesis. SABiosciences (Qiagen) has just produced a free Pathways E-book (Pathways™ Issue 11; The Extracellular Matrix and Angiogenesis: Role of the extracellular matrix in developing vessels and tumor angiogenesis, 2010, available from [support@sabiosciences.com](mailto:support@sabiosciences.com)). There is also a very useful comprehensive brochure for angiogenesis researchers available from R&D Systems: Tools for Cell Biology Research (68pp) ([www.RnDSystems.com](http://www.RnDSystems.com)), which includes many micrographs of immunohistochemical staining procedures and illustrations.

## References

- Folkman J. Tumor angiogenesis: therapeutic implications. *N Engl J Med* 1971;285:1182–6.  
 Meade-Tollin LC. Biological basis of antiangiogenic therapy, 8–10 Nov 1999, Milan. *Acta Histochem* 2000;102:117–27.

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