Angiogenesis Protocols

Second Edition

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METHODS IN MOLECULAR BIOLOGY™

Angiogenesis Protocols

Second Edition

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Cover illustration: Chapter 15, Figure 2.

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Preface

It is 6 years since the first edition of *Angiogenesis Protocols* was published. It is surely a testament to the continuing interest in angiogenesis and the quality of the chapters that made up that important text that we now have a second edition in print.

The original concept behind this volume was to provide a single source for angiogenesis researchers that would provide a range of methods for cell isolation and assessing angiogenesis *in vivo* or *in vitro*. Inclusivity was key to this endeavour; a number of techniques should be described in detail, ranging in difficulty and resource requirements, so that most, if not all, interested laboratories could participate in this exciting research field, irrespective of levels of resource and expertise. We have endeavoured to remain true to that underlying principle in this new edition. The foundations remain firmly in place in the form of chapters on *in vivo* and *in vitro* assays for angiogenesis, techniques that now form part of the canon of angiogenesis literature. In addition, basic methods for isolation of the various cellular components of blood vessels continue to be included.

But, angiogenesis has inevitably moved on, and our understanding of the biology and physiology of blood and lymphatic vessels is that much more profound. In addition, we are now seeing the fruits of experimentation and clinical trials with first-generation antiangiogenic agents. Reflecting this new understanding of the biology of vessels, we have incorporated new chapters, from leaders in the field, including two chapters on lymphatic vessels, one on circulating endothelial progenitor cells, and one on angiogenic signalling pathways. In recognition of the growing importance of bioimaging and other noninvasive techniques that will have a profound impact on drug development and disease diagnosis and monitoring, we have also included chapters on imaging of angiogenesis and measurement of tissue blood flow.

By expanding the number of *in vitro* and other techniques to reflect advances in the field, we have inevitably had to sacrifice certain chapters that were in the first edition—a tough decision. We would like to think, however, that this volume will continue to provide not only a practical handbook for key techniques, but also an informative and enjoyable read for all those interested, no matter how directly, in angiogenesis.

Stewart Martin
Cliff Murray

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