



*Special Issue Reprint*

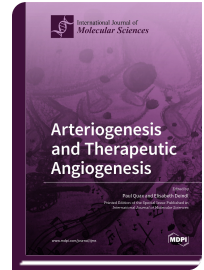
## Arteriogenesis and Therapeutic Angiogenesis

[www.mdpi.com/books/reprint/4832](http://www.mdpi.com/books/reprint/4832)

Edited by

Paul Quax

Elisabeth Deindl



ISBN 978-3-0365-2716-1 (Hardback)

ISBN 978-3-0365-2717-8 (PDF)

Although advances in therapeutic interventions improved outcomes, vascular occlusive diseases are still challenging not only afflicted but also attending physicians, requiring novel therapeutic strategies. Arteriogenesis, sometimes also called therapeutic angiogenesis, refers to the body's own capacity to create a natural bypass around a narrowing or occluded arterial vessel. This book gives an insight into current knowledge and advances in vascular sciences and future prospects of therapeutic options. The utility and relevance of circulating biomarkers together with the potential of machine learning methods are discussed as well as the challenges and prospects of novel therapies such as protein- gene-, and stem cell therapy along with multicistronic multigene vectors and the use of microRNAs, exosomes, and secretomes. Vascular smooth muscle phenotype switch as a target to promote arteriogenesis is critically addressed, highlighting the problem of promoting atherosclerosis in parallel. Two articles even deal with cold-inducible RNA-binding protein CIRP/CIRPB presenting it as promising target to promote vascularization concomitant the reduction in ischemic tissue damage. BMPR kinase inhibition is introduced to improve tissue repair in a hereditary form of vascular disorder, and the role of the AP-1 transcription factor JunB in blood vessel formation is described. Some more experimental oriented articles deal with the relevance of choosing the appropriate mouse strain for investigations as well as in vitro Matrigel plug assay as a potent method to investigate angiogenesis. Last but not least, two-photon intravital microscopy is presented as suitable tool to assess plaque angiogenesis in atherosclerotic lesions.



Order Your Print Copy

You can order print copies at

[www.mdpi.com/books/reprint/4832](http://www.mdpi.com/books/reprint/4832)

MDPI Books offers quality open access book publishing to promote the exchange of ideas and knowledge in a globalized world. MDPI Books encompasses all the benefits of open access – high availability and visibility, as well as wide and rapid dissemination. With MDPI Books, you can complement the digital version of your work with a high quality printed counterpart.



### **Open Access**

Your scholarly work is accessible worldwide without any restrictions. All authors retain the copyright for their work distributed under the terms of the Creative Commons Attribution License.



### **Author Focus**

Authors and editors profit from MDPI's over two decades of experience in open access publishing, our customized personal support throughout the entire publication process, and competitive processing charges as well as unique contributor discounts on book purchases.



### **High Quality & Rapid Publication**

MDPI ensures a thorough review for all published items and provides a fast publication procedure. State-of-the-art research and time-sensitive topics are released with a minimum amount of delay.



### **High Visibility**

Due to our global network and well-known channel partners, we ensure maximum visibility and broad dissemination. Title information of books is sent to international indexing databases and archives, such as the Directory of Open Access Books (DOAB), and the Verzeichnis Lieferbarer Bücher (VLB).



### **Print on Demand and Multiple Formats**

MDPI Books are available for purchase and to read online at any time. Our print-on-demand service offers a sustainable, cost-effective and fast way to publish MDPI Books printed versions.