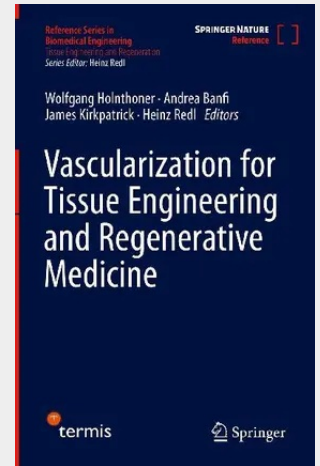


Vascularization for Tissue Engineering and Regenerative Medicine

This reference work presents the basic principles of angiogenesis induction, including the roles of signaling factors such as hypoxia-inducible factors, biophysical stimulation and angiogenic cells. The book also covers lymphogenesis induction. Both the established fundamentals in the field as well as new trends in the vascularization of engineered tissues are discussed. These include pre-vascularization strategies using preparation of channeled scaffolds and preparation of decellularized blood vessel trees, approaches to inducing formation of microvasculature and approaches to inducing the growth of vascular networks. The authors expand on these concepts with current studies of dual-level approaches to engineer vascularized tissue composites. The book concludes with a discussion of current clinical approaches and the use of vascular grafts in the context of providing clinical practice with new tissue engineering strategies.

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