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| Titolo | Tissue engineering : engineering principles for the design of replacement organs and tissues // W. Mark Saltzman |
| Pubbl/distr/stampa | New York, New York : , : Oxford University Press, , 2004 ©2004 |
| ISBN | 0-19-756177-2 1-280-48162-5 0-19-803240-4 1-4337-0104-9 |
| Descrizione fisica | 1 online resource (538 p.) |
| Collana | Oxford scholarship online |
| Disciplina | 612.028 |
| Soggetti | Tissue engineering Electronic books. |
| Lingua di pubblicazione | Inglese |
| Formato | Materiale a stampa |
| Livello bibliografico | Monografia |
| Note generali | Previously issued in print: 2004. |
| Nota di bibliografia | Includes bibliographical references at the end of each chapters and index. |
| Nota di contenuto | Contents; 1 The State-of-the-Art in Tissue Exchange; 2 Objectives of Tissue Engineering; 3 Elements of Tissue Development; 4 Cell Growth and Differentiation; 5 Cell and Tissue Mechanics; 6 Cell Adhesion; 7 Cell Migration; 8 Cell Aggregation and Tissue Equivalents; 9 Tissue Barriers to Molecular and Cellular Transport; 10 Cell Delivery and Recirculation; 11 Delivery of Molecular Agents in Tissue Engineering; 12 Cell Interactions With Polymers; 13 Approaches to Tissue Engineering; 14 Case Studies in Tissue Engineering; Appendices; A: Introduction to Polymers; B: Analysis of Molecular Transport C: Useful Data D: Nomenclature and Abbreviations; Index; A; B; C; D; E; F; G; H; I; K; L; M; N; O; P; R; S; T; U; V; W; X; Y; Z |
| Sommario/riassunto | Tissue engineering is a new field of biomedical engineering, in which synthetic materials are used together with biological components such as tissue fragments, cells, proteins to encourage tissue regeneration, regrowth, and repair. This book introduces the principles of tissue engineering in a unique way that is ideally suited for the modern engineering student. A review of developmental biology is presented |

early in the book, since biological development is the fundamental process of most relevance for tissue engineering. The study of development provides a pathway to basic bioengineering units on cell adhesion, migration, assembly, and transport, which are integrated in the final sections of the book into tissue engineering processes (such as cell delivery, growth factor administration, and polymeric scaffold materials).
