Table of Contents

1) Introductory

1 Introduction to Electroporation
Edward W. Lee, Julie Gehl, Stephen T. Kee
2 Electroporation and cellular physiology
Hanne Gissel, Raphael C. Lee, Julie Gehl
3 The cell in the electric field
Tadej Kotnik, Gorazd Pucihar, Damjan Miklavcic
4 Understanding Electric Fields for Clinical Use
Faisal Mahmod
5 Generators and Applicators: Equipment for Electroporation
Lasse Staal, Richard Gilbert

2) Electrochemotherapy

6 Cell electroporation and cellular uptake of small molecules: the electrochemotherapy concept
Aude Silve, Lluis M. Mir
7 Vascular-disrupting action of electrochemotherapy: mode of action and therapeutic implications
Gregor Sersa, Maja Camazzar
8 Electrochemotherapy of small tumors: the experience from the ESOPE (European Standard Operating Procedures for Electrochemotherapy) group
Gregor Sersa, Julie Gehl, Jean-Mony Garbay, Declan Soden, Gerald C. O'Sullivan, Louise W. Matthiesen, Marko Snoj, Lluis M. Mir
9 Electrochemotherapy for larger malignant tumors
Louise W. Matthiesen, Tobian Muir, Julie Gehl
10 Cell electroporation in bone tissue
11 Drug and Gene electrotransfer to the brain
Birgit Agerholm-Larsen, Mette Linert, Helie P. Iversen, Julie Gehl
12 Minimally invasive intraluminal tumor ablation
Patrick F Forde, Michael G Bourke, Siawonir Saile, Gerald C O'Sullivan, Declan Soden

3) Gene Electrotransfer

13 Electrotransfer of plasmid DNA
J.M. Escoffre, M.P. Rols, David A. Dean
14 Gene Electrotransfer to Tumor
Loree C. Heller, Richard Heller
15 Gene electrotransfer to lung
David A. Dean
16 Gene electrotransfer to muscle tissue: moving into clinical use
Anita Gothelf, Julie Gehl
17 Gene electrotransfer to skin
18 Electroporation-mediated DNA Vaccination
Paolo Pagone, Devon J. Shedlock, Stephen Kemmerer, Dietmar Rabussay, David B. Weiner

4) Irreversible Electroporation

19 Irreversible Electroporation (IRE) on Liver Tumor Ablation: A Summary of Preclinical Translational Research
Edward W. Lee, Daphne Wong, Stephen T. Kee
20 Translational Research on Irreversible Electroporation
Daphne Wong, Edward W. Lee, Cassidy H. Tran, Stephen T. Kee
21 Clinical Research on Irreversible Electroporation of the Liver
Ken Thomson, Stephen T. Kee