Contents

Preface ................................................................. v
Contributors ........................................................ ix

1 Genetic Research and Biobanks .................................. 1
   Don Chalmers

2 The Need to Downregulate: A Minimal Ethical Framework
   for Biobank Research ........................................ 39
   Mats G. Hansson

3 Nordic Biological Specimen Bank Cohorts as Basis for Studies of Cancer
   Causes and Control: Quality Control Tools for Study Cohorts with More
   than Two Million Sample Donors and 130,000 Prospective Cancers .... 61
   Eero Pukkala

4 Biobanks Collected for Routine Healthcare Purposes: Build-Up and
   Use for Epidemiologic Research ................................ 113
   Joakim Dillner and Kristin Andersson

5 Biobanks and Registers in Epidemiologic Research on Cancer ........ 127
   Eero Pukkala

6 Study Designs for Biobank-Based Epidemiologic Research on
   Chronic Diseases .............................................. 165
   Esa Lääärä

7 The European Prospective Investigation into
   Cancer and Nutrition Biobank .................................... 179
   Pierre Hainaut, Béatrice Vozar, Sabina Rinaldi, Elio Riboli,
   and Elodie Caboux

8 The AIDS and Cancer Specimen Resource ....................... 193
   Leona W. Ayers, Sylvia Silver, Jan M. Orenstein, Michael S. McGrath,
   and Debra L. Garcia

9 Specific Advantages of Twin Registries and Biobanks .......... 205
   Jaakko Kaprio

10 The Swedish Multi-generation Register .......................... 215
    Anders Ekbom

11 Multigenerational Information: The Example of the Icelandic
    Genealogy Database ........................................... 221
    Hrafn Tulinius

12 Creation of a New Prospective Research Biobank: The Example of HUNT3 .... 231
    Kristian Hveem

13 Best Practices for Establishing a Biobank ........................ 241
    Göran Hallmans and Jimmie B. Vaught

14 Extraction, Quantitation, and Evaluation of Function DNA from
   Various Sample Types ......................................... 261
    Malin Ivarsson and Joyce Carlson
15 Cervical Cytology Biobanks as a Resource for Molecular Epidemiology .......... 279
Marc Arbyn, Kristin Andersson, Christine Bergeron, Johnnes Bogers,
Magnus von Knebel-Doebertitz, and Joakim Dillner

16 Biobanking of Fresh Frozen Tissue from Clinical Surgical Specimens:
Transport Logistics, Sample Selection, and Histologic Characterization.......... 299
Johan Botling and Patrick Micke

17 Protein Extraction from Solid Tissue .................................. 307
Christer Ericsson and Monica Nistér

18 Collection and Preservation of Frozen Microorganisms .................. 313
Rosamaria Tedeschi and Paolo De Paoli

19 Handling of Solid Brain Tumor Tissue for Protein Analysis............... 327
Christer Ericsson and Monica Nistér

20 Blood Plasma Handling for Protein Analysis ............................. 333
Christer Ericsson and Monica Nistér

21 Biobank Informatics: Connecting Genotypes and Phenotypes............... 343
Jan-Eric Litton

22 A Practical Guide to Constructing and Using Tissue Microarrays .......... 363
Ian Chandler, Richard Houlston, and Göran Landberg

23 Breast Cancer Genomics Based on Biobanks .............................. 375
Asta Försti and Kari Hemminki

24 Monitoring, Alarm, and Data Visualization Service on Sample
Preparing and Sample Storing Devices in Biobanks .......................... 387
Halla Hauksdóttir, Kristín Jónsdóttir, and Andres Thorarinsson

25 Fresh Frozen Tissue: RNA Extraction and Quality Control.................. 405
Johan Botling and Patrick Micke

Index ................................................................. 415
Methods in Biobanking
Dillner, J. (Ed.)
2011, XI, 370 p. 55 illus., 4 illus. in color., Hardcover
A product of Humana Press