# 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 Läärä

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
<table>
<thead>
<tr>
<th>Chapter</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>Cervical Cytology Biobanks as a Resource for Molecular Epidemiology</td>
<td>279</td>
</tr>
<tr>
<td></td>
<td>Marc Arbyn, Kristin Andersson, Christine Bergeron, Johnnes Bogers,</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Magnus von Knebel-Doebertitz, and Joakim Dillner</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Biobanking of Fresh Frozen Tissue from Clinical Surgical Specimens:</td>
<td>299</td>
</tr>
<tr>
<td></td>
<td>Transport Logistics, Sample Selection, and Histologic Characterization</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Johan Botling and Patrick Micke</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>Protein Extraction from Solid Tissue</td>
<td>307</td>
</tr>
<tr>
<td></td>
<td>Christer Ericsson and Monica Nistér</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>Collection and Preservation of Frozen Microorganisms</td>
<td>313</td>
</tr>
<tr>
<td></td>
<td>Rosamaria Tedeschi and Paolo De Paoli</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>Handling of Solid Brain Tumor Tissue for Protein Analysis</td>
<td>327</td>
</tr>
<tr>
<td></td>
<td>Christer Ericsson and Monica Nistér</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>Blood Plasma Handling for Protein Analysis</td>
<td>333</td>
</tr>
<tr>
<td></td>
<td>Christer Ericsson and Monica Nistér</td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>Biobank Informatics: Connecting Genotypes and Phenotypes</td>
<td>343</td>
</tr>
<tr>
<td></td>
<td>Jan-Eric Litton</td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>A Practical Guide to Constructing and Using Tissue Microarrays</td>
<td>363</td>
</tr>
<tr>
<td></td>
<td>Ian Chandler, Richard Houlston, and Göran Landberg</td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>Breast Cancer Genomics Based on Biobanks</td>
<td>375</td>
</tr>
<tr>
<td></td>
<td>Asta Försti and Kari Hemminki</td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>Monitoring, Alarm, and Data Visualization Service on Sample</td>
<td>387</td>
</tr>
<tr>
<td></td>
<td>Preparing and Sample Storing Devices in Biobanks</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Halla Hauksdóttir, Kristín Jónsdóttir, and Andres Thorarinsson</td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>Fresh Frozen Tissue: RNA Extraction and Quality Control</td>
<td>405</td>
</tr>
<tr>
<td></td>
<td>Johan Botling and Patrick Micke</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Index</td>
<td>415</td>
</tr>
</tbody>
</table>
Methods in Biobanking
Dillner, J. (Ed.)
2011, XI, 370 p. 55 illus., 4 illus. in color., Hardcover
A product of Humana Press