## Contents

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

1 Targeting Cancer with Small-Molecular-Weight Kinase Inhibitors  
   *Doriano Fabbro, Sandra W. Cowan-Jacob, Henrik Möbitz, and Georg Martiny-Baron*  
   1  

2 Small-Molecule Protein and Lipid Kinase Inhibitors in Inflammation  
   and Specific Models for Their Evaluation  
   *Matthias Gaestel and Alexey Kotlyarov*  
   35  

3 Measuring the Activity of Leucine-Rich Repeat Kinase 2:  
   A Kinase Involved in Parkinson’s Disease  
   *Byoung Dae Lee, Xiaojie Li, Ted M. Dawson, and Valina L. Dawson*  
   45  

4 Measuring PI3K Lipid Kinase Activity  
   *Elisa Ciraolo, Alessia Perino, and Emilio Hirsch*  
   55  

5 A Fluorescence Polarization Assay for the Discovery of Inhibitors  
   of the Polo-Box Domain of Polo-Like Kinase 1  
   *Wolfgang Reindl, Klaus Strebhardt, and Thorsten Berg*  
   69  

6 Assessment of Hepatotoxicity Potential of Drug Candidate Molecules  
   Including Kinase Inhibitors by Hepatocyte Imaging Assay Technology  
   and Bile Flux Imaging Assay Technology  
   *Jinghai J. Xu, Margaret C. Dunn, Arthur R. Smith, and Eric S. Tien*  
   83  

7 Kinase Inhibitor Selectivity Profiling Using Differential Scanning Fluorimetry  
   *Oleg Fedorov, Frank H. Niesen, and Stefan Knapp*  
   109  

8 Chemoproteomic Characterization of Protein Kinase Inhibitors  
   Using Immobilized ATP  
   *James S. Duncan, Timothy A. J. Haystead, and David W. Litchfield*  
   119  

9 Proteome-Wide Identification of Staurosporine-Binding Kinases  
   Using Capture Compound Mass Spectrometry  
   *Jenny J. Fischer, Olivia Y. Graebner (née Baessler), and Mathias Dreger*  
   135  

10 Affinity Purification of Proteins Binding to Kinase Inhibitors Immobilized  
    on Self-Assembling Monolayers  
    *Marcus Bantscheff, Scott Hobson, and Bernhard Kuster*  
    149  

11 Kinase Inhibitor Profiling Using Chemoproteomics  
    *Markus Schirle, Eugene C. Petrella, Scott M. Brittain, David Schwalb,  
    Edmund Harrington, Ivan Cornella-Taracido, and John A. Tallarico*  
    161  

12 Covalent Cross-Linking of Kinases with Their Corresponding  
    Peptide Substrates  
    *Alexander V. Statsuk and Kevan M. Shokat*  
    179
<table>
<thead>
<tr>
<th>Chapter</th>
<th>Title</th>
<th>Authors</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>13</td>
<td>Receptor Tyrosine Kinase Inhibitor Profiling Using Bead-Based</td>
<td>Oliver Pötz, Nicole Schneiderhan-Marra, Tanja Henzler, Thomas Herget, and Thomas O. Joos</td>
<td>191</td>
</tr>
<tr>
<td></td>
<td>Multiplex Sandwich Immunoassays</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Monitoring Phosphoproteomic Response to Targeted Kinase Inhibitors</td>
<td>Gabriela Lavezzari and Mark R. Lackner</td>
<td>203</td>
</tr>
<tr>
<td></td>
<td>Using Reverse-Phase Protein Microarrays</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Measuring Phosphorylation-Specific Changes in Response to Kinase Inhibitors in Mammalian Cells Using Quantitative Proteomics</td>
<td>Nurhan Özlü, Marc Kirchner, and Judith Jebanathirajah Steen</td>
<td>217</td>
</tr>
<tr>
<td>16</td>
<td>Investigation of Acquired Resistance to EGFR-Targeted Therapies</td>
<td>Kian Kani, Rafaella Sordella, and Parag Mallick</td>
<td>233</td>
</tr>
<tr>
<td></td>
<td>in Lung Cancer Using cDNA Microarrays</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Index</td>
<td></td>
<td>255</td>
</tr>
</tbody>
</table>
Kinase Inhibitors
Methods and Protocols
Kuster, B. (Ed.)
2012, XI, 256 p., Hardcover
A product of Humana Press