
Contents

<i>Preface</i>	<i>v</i>
<i>Contributors</i>	<i>ix</i>
1. Luminescent Probes and Visualization of Bioluminescence	1
<i>Elisa Michelini, Luca Cevenini, Laura Mezzanotte, and Aldo Roda</i>	
2. Validation of Bioluminescent Imaging Techniques	15
<i>John Virostko and E. Duco Jansen</i>	
3. Assessment of Extracellular ATP Concentrations	25
<i>Lucia Seminario-Vidal, Eduardo R. Lazarowski, and Seiko F. Okada</i>	
4. High-Throughput Quantitative Bioluminescence Imaging for Assessing Tumor Burden	37
<i>Angelina Contero, Edmond Richer, Ana Gondim, and Ralph P. Mason</i>	
5. Fluorescence Imaging of Tumors with “Smart” pH-Activatable Targeted Probes	47
<i>Daisuke Asanuma, Hisataka Kobayashi, Tetsuo Nagano, and Yasuteru Urano</i>	
6. Imaging Vasculature and Lymphatic Flow in Mice Using Quantum Dots	63
<i>Byron Ballou, Lauren A. Ernst, Susan Andreko, James A. J. Fitzpatrick, B. Christoffer Lagerholm, Alan S. Waggoner, and Marcel P. Bruchez</i>	
7. Bioluminescent Imaging of Transplanted Islets	75
<i>Xiaojuan Chen and Dixon B. Kaufman</i>	
8. Bioluminescence Reporter Gene Imaging of Human Embryonic Stem Cell Survival, Proliferation, and Fate	87
<i>Kitchener D. Wilson, Mei Huang, and Joseph C. Wu</i>	
9. Detection of Apoptosis Using Cyclic Luciferase in Living Mammals	105
<i>Akira Kanno, Yoshio Umezawa, and Takeaki Ozawa</i>	
10. Noninvasive Bioluminescent Imaging of Infections	115
<i>Javier S. Burgos</i>	
11. Real-Time Bioluminescence Imaging of Viral Pathogenesis	125
<i>Kathryn E. Luker and Gary D. Luker</i>	
12. Bioluminescent Monitoring of In Vivo Colonization and Clearance Dynamics by Light-Emitting Bacteria	137
<i>Siouxie Wiles, Brian D. Robertson, Gad Frankel, and Angela Kerton</i>	
13. Quantitative In Vivo Imaging of Non-viral-Mediated Gene Expression and RNAi-Mediated Knockdown	155
<i>Garrett R. Rettig and Kevin G. Rice</i>	

14.	Analysis of Protein–Protein Interactions Using Bioluminescence Resonance Energy Transfer	173
	<i>Kevin D.G. Pfleger</i>	
15.	Bioluminescent Imaging of MAPK Function with Intein-Mediated Reporter Gene Assay	185
	<i>Akira Kanno, Takeaki Ozawa, and Yoshio Umezawa</i>	
16.	Bioluminescence Analysis of Smad-Dependent TGF- β Signaling in Live Mice	193
	<i>Jian Luo and Tony Wyss-Coray</i>	
17.	Bioluminescence Imaging of Calcium Oscillations Inside Intracellular Organelles	203
	<i>Carlos Villalobos, María Teresa Alonso, and Javier García-Sancho</i>	
18.	Novel Tools for Use in Bioluminescence Resonance Energy Transfer (BRET) Assays	215
	<i>Mélanie Robitaille, Isabelle Héroux, Alessandra Baragli, and Terence E. Hébert</i>	
19.	PIN-G Reporter for Imaging and Defining Trafficking Signals in Membrane Proteins	235
	<i>Lynn Mckeown, Vicky C. Jones, and Owen T. Jones</i>	
20.	Imaging β -Galactosidase Activity In Vivo Using Sequential Reporter-Enzyme Luminescence	249
	<i>Georges von Degenfeld, Tom S. Wehrman, and Helen M. Blau</i>	
	<i>Index</i>	261

Bioluminescence

Methods and Protocols

Rich, P.B.; Douillet, C. (Eds.)

2009, XII, 268 p. 60 illus., 29 illus. in color., Hardcover

ISBN: 978-1-60327-320-6

A product of Humana Press