

---

# Contents

<i>Preface</i> .....	<i>vii</i>
<i>Contributors</i> .....	<i>xi</i>
1 An Integrated Polysome Profiling and Ribosome Profiling Method to Investigate In Vivo Translatome .....	1
<i>Hyun Yong Jin and Changchun Xiao</i>	
2 Measuring Nascent Transcripts by Nascent-seq .....	19
<i>Fei Xavier Chen, Stacy A. Marshall, Yu Deng, and Sun Tianjiao</i>	
3 Genome-Wide Copy Number Alteration Detection in Preimplantation Genetic Diagnosis .....	27
<i>Lieselot Deleye, Dieter De Coninck, Dieter Deforce, and Filip Van Nieuwerburgh</i>	
4 Multiplexed Targeted Sequencing for Oxford Nanopore MinION: A Detailed Library Preparation Procedure .....	43
<i>Timokratis Karamitros and Gkikas Magiorkinis</i>	
5 Hi-Plex for Simple, Accurate, and Cost-Effective Amplicon-based Targeted DNA Sequencing .....	53
<i>Bernard J. Pope, Fleur Hammet, Tu Nguyen-Dumont, and Daniel J. Park</i>	
6 ClickSeq: Replacing Fragmentation and Enzymatic Ligation with Click-Chemistry to Prevent Sequence Chimeras .....	71
<i>Elizabeth Jaworski and Andrew Routh</i>	
7 Genome-Wide Analysis of DNA Methylation in Single Cells Using a Post-bisulfite Adapter Tagging Approach .....	87
<i>Heather J. Lee and Sébastien A. Smallwood</i>	
8 Sequencing of Genomes from Environmental Single Cells .....	97
<i>Robert M. Bowers, Janey Lee, and Tanja Woyke</i>	
9 SNP Discovery from Single and Multiplex Genome Assemblies of Non-model Organisms .....	113
<i>Phillip A. Morin, Andrew D. Foote, Christopher M. Hill, Benoit Simon-Boubet, Aimee R. Lang, and Marie Louis</i>	
10 CleanTag Adapters Improve Small RNA Next-Generation Sequencing Library Preparation by Reducing Adapter Dimers .....	145
<i>Sabrina Shore, Jordana M. Henderson, and Anton P. McCaffrey</i>	
11 Sampling, Extraction, and High-Throughput Sequencing Methods for Environmental Microbial and Viral Communities .....	163
<i>Pedro J. Torres and Scott T. Kelley</i>	
12 A Bloody Primer: Analysis of RNA-Seq from Tissue Admixtures .....	175
<i>Casey P. Shannon, Chen Xi Yang, and Scott J. Tebbutt</i>	
13 Next-Generation Sequencing of Genome-Wide CRISPR Screens .....	203
<i>Edwin H. Yau and Tariq M. Rana</i>	

14 Gene Profiling and T Cell Receptor Sequencing from Antigen-Specific CD4 T Cells . . . . . 217  
*Marie Holt, Anne Costanzo, Louis Gioia, Brian Abe, Andrew I. Su, and Luc Teyton*

15 Investigate Global Chromosomal Interaction by Hi-C in Human Naive CD4 T Cells . . . . . 239  
*Xiangzhi Meng, Nicole Riley, Ryan Thompson, and Siddhartha Sharma*

16 Primer Extension, Capture, and On-Bead cDNA Ligation: An Efficient RNAseq Library Prep Method for Determining Reverse Transcription Termination Sites . . . . . 253  
*Phillip Ordoukhanian, Jessica Nichols, and Steven R. Head*

*Index* . . . . . 263