
Contents

Preface	v
Contributors	xi

I GENOME AND TRANSCRIPT ANALYSES

1 Epstein-Barr Virus: <i>The B95-8 Strain Map</i> Paul J. Farrell	3
2 Analysis of Replication of oriP-Based Plasmids by Quantitative, Competitive PCR Ann L. Kirchmaier	13
3 Genetic Analysis and Gene Expression with Mini-Epstein-Barr Virus Plasmids Ellen Kilger and Wolfgang Hammerschmidt	23
4 Construction of cDNA Libraries for the Analysis of the Structure of Complementary Strand Transcripts (CSTs) Paul R. Smith	37
5 Analysis of the Expression and Function of the EBV-Encoded Small RNAs, the EBERs, in Heterologous Cells Kenneth G. Laing, Volker Matys, and Michael J. Clemens	45
6 Visualizing EBV Expression Patterns by FISH Anna Szeles	67

II VIRAL DETECTION

7 <i>In Situ</i> Detection of Epstein-Barr Virus DNA and Viral Gene Products Gerald Niedobitek and Hermann Herbst	79
8 Phenotype Determination of Epstein-Barr Virus-Infected Cells in Tissue Sections Hermann Herbst and Gerald Niedobitek	93
9 Detection of EBV Infection at the Single-Cell Level: <i>Precise Quantitation of Virus-Infected Cells In Vivo</i> Gregory J. Babcock, Emily M. Miyashita-Lin, and David A. Thorley-Lawson	103

10	Detection and Discrimination of Latent and Replicative Herpesvirus Infection at the Single Cell Level In Vivo Lisa L. Decker, Gregory J. Babcock, and David A. Thorley-Lawson	111
III CULTURE METHODS		
11	Virus Isolation Lindsey M. Hutt-Fletcher and Susan M. Turk	119
12	Generation of Lymphoblastoid Cell Lines (LCLs) Teresa Frisan, Victor Levitsky, and Maria Masucci	125
13	Cell Cycle Distribution of B-Lymphocytes and Cell Lines Alison J. Sinclair	129
14	Introduction of Plasmid Vectors into Cells Via Electroporation Ann L. Kirchmaier	137
15	Malignant Transformation and immortalization Assays in Animal Cells Transfected with the BARF1 Gene Tadamasa Ooka	147
16	Transient Gene Expression and MACS Enrichment Dieter Kube and Martina Vockerodt	155
17	In Vitro Assays to Study Epithelial Cell Growth Christopher W. Dawson and Lawrence S. Young	165
18	In Vitro Assays to Study Epithelial Cell Differentiation Christopher W. Dawson and Lawrence S. Young	173
19	Cell Sensitivity Assays: <i>Quantitative Detection of Apoptotic Cells In Vitro Using the TUNEL Assay</i> Neil A. Jones and Caroline Dive	181
20	Qualitative Detection of Apoptotic Cells Assessed by DNA Fragmentation Amanda J. McIlwrath	189
IV IMMUNE ASSAYS		
21	Regression Assay Teresa Frisan, Victor Levitsky, and Maria Masucci	199
22	Generation of Polyclonal EBV-Specific CTL Cultures and Clones Victor Levitsky, Teresa Frisan, and Maria Masucci	203
23	Determination of Antigen and Fine Peptide Specificity of EBV-Specific CTLs Victor Levitsky, Teresa Frisan, and Maria Masucci	209
24	Limiting Dilution Assay Teresa Frisan, Victor Levitsky, and Maria Masucci	213

V VIRAL PROTEIN DETECTION

- 25 Antibodies for Detecting EBV Latent Proteins
Martin Rowe and Anja Mehl 219
- 26 Detection of EBV Latent Proteins by Western Blotting
Martin Rowe and Matthew Jones 229
- 27 Biosynthetic Radiolabeling of Virus Glycoproteins
 for Immunoprecipitation and Electrophoretic Analysis
Lindsey M. Hutt-Fletcher and Susan M. Turk 243

VI PROTEIN-PROTEIN, PROTEIN-DNA,
AND PROTEIN-RNA INTERACTIONS

- 28 The Yeast Two-Hybrid Assay to Identify Interacting Proteins
Kenneth M. Izumi 249
- 29 Identification of Transactivation, Repression, and Protein-Protein
 Interaction Domains Using GAL4-Fusion Proteins
James J.-D. Hsieh and S. Diane Hayward 259
- 30 Magnetic DNA Affinity Purification of a Cellular Transcription Factor
Lothar J. Strobl and Ursula Zimmer-Strobl 271
- 31 Screening an Expression Library with a DNA Binding Site
Qin Zhang and Eduardo A. Montalvo 279
- 32 Analysis of DNA Binding Proteins by Mobility Shift Assay
Yi-Chun James Wang and Eduardo A. Montalvo 289
- 33 Analysis of RNA-Protein Interactions of the EBV-Encoded
 Small RNAs, the EBERs: *In Vitro* Assays
**Kenneth G. Laing, Androulla Elia, Ian W. Jeffrey,
 and Michael J. Clemens** 297

VII PROTEIN ACTIVITY ASSAYS

- 34 Chimeric and Mutated Variants of LMP1: *A Helpful Tool to Analyze
 the Structure-Function Relationship of a Pseudoreceptor*
Olivier Gires, Marius Ueffing, and Wolfgang Hammerschmidt ... 313
- 35 Assaying the Activity of Kinases Regulated by LMP1
Arnd Kieser 325
- 36 *In Vitro* Assays for the Detection of Protein Tyrosine
 Phosphorylation and Protein Tyrosine Kinase Activities
Sara Fruehling and Richard Longnecker 337

VIII TISSUE AND IN VIVO PROTOCOLS

37	Analysis of Apoptosis in Tissue Sections <i>Vicki Save, Philip J. Coates, and Peter A. Hall</i>	347
38	Considerations in Generating Transgenic Mice: <i>DNA, RNA, and Protein Extractions from Tissues—Rapid and Effective Blotting</i> <i>Joanna B. Wilson and Mark E. Drotar</i>	361
39	In Vivo Assay of Cellular Proliferation <i>John Curran</i>	379
40	Topical Chemical Carcinogen Treatment in Mice <i>John Curran</i>	391
41	Separation of Epidermal Tissue from Underlying Dermis and Primary Keratinocyte Culture <i>Jennifer Macdiarmid and Joanna B. Wilson</i>	401
42	Selection and Enrichment of B Cells from Lymphoid Tissues <i>Penelope Tsimbouri, Marie Anne O'Donnell, and Joanna B. Wilson</i>	411
43	Detection of Immunoglobulin Gene Rearrangements <i>Robert G. Caldwell and Richard Longnecker</i>	423
	Index	433



<http://www.springer.com/978-0-89603-690-1>

Epstein-Barr Virus Protocols
Wilson, J.B.; May, G.H.W. (Eds.)
2001, XIV, 438 p., Hardcover
ISBN: 978-0-89603-690-1
A product of Humana Press