
Contents

<i>Preface</i>	<i>v</i>
<i>Contributors</i>	<i>ix</i>
1 A Brief Review of West Nile Virus Biology	1
<i>Berlin Londono-Renteria and Tonya M. Colpitts</i>	
2 Overview of West Nile Virus Transmission and Epidemiology	15
<i>Andrea Troupin and Tonya M. Colpitts</i>	
3 Propagation and Titration of West Nile Virus on Vero Cells	19
<i>Alexander J. McAuley and David W.C. Beasley</i>	
4 Generating West Nile Virus from an Infectious Clone	29
<i>Rianna Vandergaast and Brenda L. Fredericksen</i>	
5 Functional Analysis of West Nile Virus Proteins in Human Cells	45
<i>Pakieli H. Kaufusi, Alanna Tseng, and Vivek R. Nerurkar</i>	
6 Lessons from the Murine Models of West Nile Virus Infection	61
<i>Brenna McGruder, Vandana Saxena, and Tian Wang</i>	
7 Exploration of West Nile Virus Infection in Mouse Models	71
<i>Penghua Wang</i>	
8 Examination of West Nile Virus Neuroinvasion and Neuropathogenesis in the Central Nervous System of a Murine Model	83
<i>Hameeda Sultana</i>	
9 In Vitro and In Vivo Blood–Brain Barrier Models to Study West Nile Virus Pathogenesis	103
<i>Mukesh Kumar and Vivek R. Nerurkar</i>	
10 Methodology for Identifying Host Factors Involved in West Nile Virus Infection	115
<i>Manoj N. Krishnan</i>	
11 ELISA and Neutralization Methods to Measure Anti-West Nile Virus Antibody Responses	129
<i>Brian M. Friedrich and David W.C. Beasley</i>	
12 Safe Handling of West Nile Virus in the Insectary	143
<i>Dexter R. McKellar and Michael J. Conway</i>	
13 Techniques for Experimental Infection of Mosquitoes with West Nile Virus	151
<i>Yang Liu and Gong Cheng</i>	
14 Field Surveillance Methods for West Nile Virus	165
<i>Samuel B. Jameson and Dawn M. Wesson</i>	
15 Detection Protocols for West Nile Virus in Mosquitoes, Birds, and Nonhuman Mammals	175
<i>Elizabeth B. Kauffman, Mary A. Franke, and Laura D. Kramer</i>	

16	Field Methods and Sample Collection Techniques for the Surveillance of West Nile Virus in Avian Hosts	207
	<i>Sarah S. Wheeler, Walter M. Boyce, and William K. Reisen</i>	
17	Statistical Tools for the Interpretation of Enzoootic West Nile virus Transmission Dynamics.	221
	<i>Kevin A. Caillouët and Suzanne Robertson</i>	
18	Role of Immune Aging in Susceptibility to West Nile Virus	235
	<i>Yi Yao and Ruth R. Montgomery</i>	
19	An Overview of Current Approaches Toward the Treatment and Prevention of West Nile Virus Infection	249
	<i>Dhiraj Acharya and Fengwei Bai</i>	
	<i>Index</i>	293

West Nile Virus

Methods and Protocols

Colpitts, T.M. (Ed.)

2016, XI, 295 p. 32 illus., 25 illus. in color., Hardcover

ISBN: 978-1-4939-3668-7

A product of Humana Press