

# Contents

<b>1</b>	<b>Introduction to Nucleic Acid Polymerases: Families, Themes, and Mechanisms . . . . .</b>	<b>1</b>
	Michael A. Trakselis and Katsuhiko S. Murakami	
<b>2</b>	<b>Eukaryotic Replicative DNA Polymerases . . . . .</b>	<b>17</b>
	Erin Walsh and Kristin A. Eckert	
<b>3</b>	<b>DNA Repair Polymerases . . . . .</b>	<b>43</b>
	Robert W. Sobol	
<b>4</b>	<b>Eukaryotic Y-Family Polymerases: A Biochemical and Structural Perspective . . . . .</b>	<b>85</b>
	John M. Pryor, Lynne M. Dieckman, Elizabeth M. Boehm, and M. Todd Washington	
<b>5</b>	<b>DNA Polymerases That Perform Template-Independent DNA Synthesis . . . . .</b>	<b>109</b>
	Anthony J. Berdis	
<b>6</b>	<b>Archaeal DNA Polymerases: Enzymatic Abilities, Coordination, and Unique Properties . . . . .</b>	<b>139</b>
	Michael A. Trakselis and Robert J. Bauer	
<b>7</b>	<b>Engineered DNA Polymerases . . . . .</b>	<b>163</b>
	Roberto Laos, Ryan W. Shaw, and Steven A. Benner	
<b>8</b>	<b>Reverse Transcriptases . . . . .</b>	<b>189</b>
	Stuart F.J. Le Grice and Marcin Nowotny	
<b>9</b>	<b>Telomerase: A Eukaryotic DNA Polymerase Specialized in Telomeric Repeat Synthesis . . . . .</b>	<b>215</b>
	Andrew F. Brown, Joshua D. Podlevsky, and Julian J.-L. Chen	
<b>10</b>	<b>Bacteriophage RNA Polymerases . . . . .</b>	<b>237</b>
	Ritwika S. Basu and Katsuhiko S. Murakami	

<b>11 Mitochondrial DNA and RNA Polymerases . . . . .</b>	<b>251</b>
Y. Whitney Yin	
<b>12 Eukaryotic RNA Polymerase II . . . . .</b>	<b>277</b>
David A. Bushnell and Roger D. Kornberg	
<b>13 Plant Multisubunit RNA Polymerases IV and V . . . . .</b>	<b>289</b>
Thomas S. Ream, Jeremy R. Haag, and Craig S. Pikaard	
<b>14 Structure, Dynamics, and Fidelity of RNA-Dependent RNA Polymerases . . . . .</b>	<b>309</b>
David D. Boehr, Jamie J. Arnold, Ibrahim M. Moustafa, and Craig E. Cameron	
<b>Index . . . . .</b>	<b>335</b>

Nucleic Acid Polymerases

Murakami, K.; Trakselis, M.A. (Eds.)

2014, VIII, 342 p. 76 illus., 53 illus. in color., Hardcover

ISBN: 978-3-642-39795-0