
Contents

Preface	v
Contributors	ix
PART I ASSAYS TO DETECT AND QUANTITATE DNA REPAIR ACTIVITY	
1 Repair of A/G and A/8-oxoG Mismatches by MutY Adenine DNA Glycosylase A-Lien Lu	3
2 Assays for the Repair of Oxidative Damage by Formamidopyrimidine Glycosylase (Fpg) and 8-Oxoguanine DNA Glycosylase (OGG-1) Amanda J. Watson and Geoffrey P. Margison	17
3 Detection and Quantitation of Uracil DNA Glycosylase Activity Geraldine M. O'Grady	33
4 Detection of DNA Deoxyribophosphodiesterase Activity Margarita Sandigursky and William A. Franklin	39
5 O ⁶ -Alkylguanine-DNA Alkytransferase Assay Amanda J. Watson and Geoffrey P. Margison	49
6 The <i>E. coli</i> Vsr Endonuclease: Assaying Activity <i>In Vitro</i> and <i>In Vivo</i> Claire G. Cupples and Georgina Macintyre	63
7 Coupling of DNA Helicase Function to DNA Strand Exchange Activity Frank G. Harmon and Stephen C. Kowalczykowski	75
8 Detection and Quantitation of RecBCD Enzyme (Exonuclease V) Activity Douglas A. Julin	91
9 Holliday Junction Branch Migration and Resolution: <i>RuvA</i> , <i>RuvB</i> , and <i>RuvC</i> from the Hyperthermophile <i>Thermotoga maritima</i> Susana Gonzalez and James G. Wetmur	107
10 MutS–DNA Interactions and DNase Protection Analysis with Surface Plasmon Resonance Peter Brooks	119
PART II USE OF DNA REPAIR ENZYMES AS TOOLS IN MOLECULAR BIOLOGY	
11 Flexible Genetic Engineering Using RecA Protein Lance J. Ferrin	135

12	Interspecies Recombination and Mismatch Repair: <i>Generation of Mosaic Genes and Genomes</i> Ivan Matic, François Taddei, and Miroslav Radman	149
13	The Use of Immobilized Mismatch Binding Protein in Mutation/SNP Detection Robert Wagner and Alan Dean	159
14	Use of Uracil DNA Glycosylase in the Detection of Known DNA Mutations and Polymorphisms: <i>Glycosylase-Mediated Polymorphism Detection (GMPD-Check)</i> Pat Vaughan	169
15	Use of Uracil DNA Glycosylase in Scanning for Unknown DNA Mutations and Polymorphisms: <i>Glycosylase-Mediated Polymorphism Detection (GMPD-Scan)</i> Pat Vaughan	179
16	The Use of Resolvases T4 Endonuclease VII and T7 Endonuclease I in Mutation Detection Jeffrey J. Babon, Matthew McKenzie, and Richard G. H. Cotton	187
Index	201



<http://www.springer.com/978-0-89603-643-7>

DNA Repair Protocols

Prokaryotic Systems

Vaughan, P. (Ed.)

2000, X, 192 p., Hardcover

ISBN: 978-0-89603-643-7

A product of Humana Press