1. Record Nr. UNINA9910455737203321

Titolo	Mutation detection [[electronic resource]] : a practical approach / / edited by R.G.H. Cotton, E. Edkins, and S. Forrest
Pubbl/distr/stampa	Oxford ; ; New York, : IRL Press at Oxford University Press, 1998
ISBN	0-19-156569-5 1-280-37548-5 9786610375486 0-585-48413-9
Descrizione fisica	1 online resource (263 p.)
Collana	Practical approach series ; ; 188
Altri autori (Persone)	CottonRichard G. H EdkinsE (Edward) ForrestS (Sue)
Disciplina	576.5/49
Soggetti	Mutation (Biology) Molecular genetics Chromosome abnormalities Electronic books.
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Cover; Contents; List of Contributors; Abbreviations; Introduction; References; 1. Single-strand conformation polymorphism analysis; 1. Introduction; 2. PCR-SSCP using polyacrylamide slab gel; PCR Optimization and primer design; Pre-amplification and isolation by agarose gel electrophoresis; PCR using [[Sup(32)]P]deoxynucleotide triphosphate; Removal of 3' appendage; SSCP gel electrophoresis; Interpretation of autoradiogram; Re-amplification and direct sequencing; Gel matrices other than polyacrylamide; Restriction endonuclease fingerprinting and dideoxy fingerprinting 3. Fluorescent SSCP in an automated DNA sequencerPrimer design in post-PCR fluorescent labelling; Fluorescent labelling by 3' exchange reaction; SSCP in capillary electrophoresis (CE-SSCP); Data processing; Acknowledgements; References; 2. Single-stranded conformation polymorphism and heteroduplex analysis; 1. Introduction; 2. Optimization of the PCR reaction; 3. SSCP sample prepration; 4.

Optimization of SSCP/HA detection; 5. Multiplexing; 6. Interpretation of results; 7. Applications; 8. Other methods; References
3. Comprehensive mutation detection with denaturing gradient gel electrophoresis1. Introduction; The scope of DGGE, its distinctive capabilities, and the nature of results; 2. Background; 3. Basic principle, the physical properties of DNA; 4. Overview of the procedures in searching for mutants; Defining segments for scrutiny; Sample preparation; Gradient and velocity separations; Features of the gel patterns; Discrimination of zygozygosity; Comments; 5. Use of the psoralen cross-link as a clamp; The psoralen protocol; 6. Computational tools; What is a meltmap?; Meltmap protocol Predicting electrophoretic separationsComputer operations for MUTRAV; 7. Other members of the DGGE family; Gel separations in a uniform, partially denaturing environment; Capillary electrophoresis; The thermal gradient; The temperature ramp; 2D length and gradient separations; 8. End notes; Acknowledgments; References; 4. Cleavage using RNase to detect mutations; 1. Introduction; 2. RNase protection assay for mutation detection; Evaluation of the sensitivity; Source material; PCR for RNase protection assay; RNA probe preparation; RNase protection; Detection of digested probe
Mutation detection by sequencing of the PCR productsOther modified methodologies for mutation detection; Acknowledgements; References; 5. Cleavage of mismatched bases using chemical reagents; 1. Introduction; 2. Basic procedures; Comments on the basic procedures; 3. Ultra fast chemical mismatch detection; Labelling; Solid phase; Comments; References; 6. Mutation detection using T4 endonuclease VII; 1. Introduction; 2. The biology of Endo VII; The role of Endo VII in vivo; Characterization of Endo VII; Action of Endo VII on heteroduplex DNA; 3. Use of Endo VII for mutation detection
Enzyme mismatch cleavage

Sommario/riassunto

Mutation detection is increasingly undertaken in a wide spectrum of research areas: in medicine it is fundamental in isolating disease genes and diagnbosis, and is especially important in cancer research; in biology, commercially important genes can be identified by the mutations they contain. But mutation detection is time-consuming and expensive. This volume offers the latest tried and tested protocols for a range of detection methods, from the labs of the leading researchers inthe field.