

Table of Contents

CHAPTER 1. INTRODUCTION

- § 1:1 Overview of forensic DNA
- § 1:2 Matters covered

CHAPTER 2. WHAT IS A DNA PROFILE?

- § 2:1 History of forensic DNA testing
- § 2:2 DNA biology
- § 2:3 Short tandem repeats
- § 2:4 Attributes and Advantages of Loci Chosen for Forensic Use

CHAPTER 3. DEVELOPING A DNA PROFILE: FROM CRIME SCENE TO LABORATORY

- § 3:1 Sample collection
- § 3:2 Reference samples
- § 3:3 Sampling crime scene evidence
- § 3:4 Extraction, amplification, and determination of a DNA profile
- § 3:5 Consuming a sample
- § 3:6 Observation of analysis by opposing party

CHAPTER 4. QUALITY ASSURANCE, TRAINING, AND ACCREDITATION

- § 4:1 Quality assurance in a forensic DNA laboratory
- § 4:2 Quality assurance DNA standards
- § 4:3 Accreditation
- § 4:4 Training of forensic DNA examiners/analysts
- § 4:5 Certification of criminalists in the USA
- § 4:6 National academy of sciences report: Strengthening forensic science in the United States
- § 4:7 California crime laboratory review task force

CHAPTER 5. STATISTICS FOR AUTOSOMAL STR PROFILES

- § 5:1 Random match probability
- § 5:2 Fallacies
- § 5:3 Establishing a population database
- § 5:4 Statistics in DNA Database Cases

§ 5:5 Likelihood ratios

CHAPTER 6. DNA MIXTURES

§ 6:1 Identification and evaluation

§ 6:2 Interpretation of results

§ 6:3 Mixture statistics

§ 6:4 Interpretation software

CHAPTER 7. ALTERNATE DNA TESTING METHODS

§ 7:1 Y chromosome short tandem repeats

§ 7:2 Mitochondrial DNA

§ 7:3 Single nucleotide polymorphisms

§ 7:4 Low copy number analysis

§ 7:5 Forensic Genetic Genealogy

§ 7:6 Activity level testing and testimony

CHAPTER 8. CALIFORNIA'S DNA DATA BANK PROGRAM

§ 8:1 Overview

§ 8:2 LDIS, SDIS, NDIS, and CODIS

§ 8:3 History and purpose of California's program

§ 8:4 Funding California's DNA Data Bank Program

§ 8:5 Management of DNA Data Bank Program

§ 8:6 Collection and processing of offender reference samples

§ 8:7 Use of force in collections

§ 8:8 Crimes related to DNA sample collection

§ 8:9 Erroneous collection of database samples: suppression of evidence and liability

§ 8:10 Expungement and retention of offender DNA profiles

§ 8:11 Collection and processing of crime scene samples

§ 8:12 Use restrictions on Data Bank samples and profiles

§ 8:13 Disclosure restrictions

§ 8:14 Penalties for violating use or disclosure restrictions

§ 8:15 Confirming and reporting a cold hit to law enforcement

§ 8:16 Constitutionality of DNA database collections and searches under the Fourth Amendment

§ 8:17 Other constitutional considerations

§ 8:18 Familial searching

§ 8:19 Missing persons DNA database program

§ 8:20 Local DNA database programs

TABLE OF CONTENTS

**CHAPTER 9. STATUTES OF
LIMITATION, “DOE” WARRANTS, AND
PREACCUSATION DELAY IN CRIMES
INVOLVING DNA EVIDENCE**

- § 9:1 Overview
- § 9:2 Statutes of limitation in general
- § 9:3 Statutes of limitation for felony sex offenses—
Regardless of existence of DNA evidence
- § 9:4 —DNA evidence available
- § 9:5 Federal statute of limitations in DNA cases
- § 9:6 “John Doe” arrest warrants: *People v. Robinson*
- § 9:7 Other case law
- § 9:8 Elements of DNA Doe warrants
- § 9:9 Preaccusation delay

**CHAPTER 10. DISCOVERY IN DNA
CASES**

- § 10:1 California discovery law
- § 10:2 Informal discovery in DNA cases: routine
disclosures
- § 10:3 Informal discovery in DNA cases: additional
materials
- § 10:4 Physical sample splits for defense testing
- § 10:5 DNA Data Bank Program discovery
- § 10:6 DNA Data Bank Program disclosure limitations
- § 10:7 Other laboratory material that may be of
interest as discovery
- § 10:8 *Brady v. Maryland*
- § 10:9 Observation of testing by defense expert
- § 10:10 Preservation of biological evidence for later
testing

**CHAPTER 11. ADMISSIBILITY OF DNA
EVIDENCE AT TRIAL**

- § 11:1 *People v. Kelly* and *Sargon Enterprises, Inc.*
- § 11:2 *People v. Kelly*: Procedure
- § 11:3 *People v. Kelly*: “New” scientific techniques
- § 11:4 *People v. Kelly*: Prong one / general acceptance
- § 11:5 *People v. Kelly*: Prong two
- § 11:6 *People v. Kelly*: Prong three
- § 11:7 Admissibility of DNA Typing Technology,
Statistical Methods, and Related Software
- § 11:8 *Daubert v. Merrell Dow Pharmaceuticals, Inc.*
- § 11:9 Chain of custody considerations
- § 11:10 Scientific evidence and the confrontation clause
- § 11:11 Expert witness testimony in the wake of *People
v. Sanchez*

CHAPTER 12. POSTCONVICTION DNA TESTING AND OTHER POSTCONVICTION CHALLENGES

- § 12:1 Overview of postconviction DNA testing
- § 12:2 Penal Code section 1405
- § 12:3 Appointment of counsel
- § 12:4 The testing motion
- § 12:5 Adjudication of motion
- § 12:6 Applicability of section 1405 to prior convictions
- § 12:7 Appellate review
- § 12:8 Case Law
- § 12:9 Constitutional implications
- § 12:10 The testing order
- § 12:11 Preservation and retention of biological evidence
- § 12:12 Database search following testing
- § 12:13 DNA Test Results as Basis for State Habeas Corpus Relief
- § 12:14 Postconviction challenges to scientific evidence received at trial

CHAPTER 13. SCIENCE AND THE LAW: DNA EVIDENCE AND BEYOND

- § 13:1 Introduction
- § 13:2 Genetics and identity
- § 13:3 Cold hit cases
- § 13:4 Confrontation Clause
- § 13:5 Chimerism
- § 13:6 Indictment by DNA profile
- § 13:7 Rapid DNA
- § 13:8 New investigative tools
- § 13:9 Genetics and behavior
- § 13:10 Genetics in civil cases
- § 13:11 Brain evidence in court
- § 13:12 Admissibility of new scientific techniques
- § 13:13 Genetic privacy
- § 13:14 Genetic discrimination in employment and insurance
- § 13:15 Medical issues
- § 13:16 Genetics and reproductive science
- § 13:17 Agricultural and environmental biotechnology

Table of Laws and Rules

Table of Cases

Index