

# Presumptive and Confirmatory Forensic Tests

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## Outline

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- 1) **Presumptive and confirmatory tests**
  - What is the difference?
  - What do I do if only presumptive tests were done?
- 2) **State Crime Laboratory**
  - What tests are used?
    - Serology
    - Drug Chemistry

# **Presumptive And Confirmatory Forensic Tests**



**Olimbia Lambousis**

## Presumptive And Confirmatory Forensic Tests

**Virginia Department of Forensic Science** ,2014

**An Evaluation of Confirmatory Tests for Human Blood at Crime Scenes** Olimbia Lambousis,2003 Abundant literature exists on the forensic identification of human blood and its importance in forensic science in matters such as criminal coronial and paternity cases Traditionally methods of identification comprise of a series of presumptive confirmatory and species origin tests The OneStep ABACard HemaTrace has been designed to be used as a reliable confirmatory test for human primate blood in all forensic casework including crime scenes and laboratory settings The test is an immuno chromatographic test that presents high sensitivity and specificity and detects trace levels of human haemoglobin hHb giving a result within ten 10 minutes Research activities demonstrate that the OneStep ABACard HemaTrace is superior to the current Ouchterlony Double Diffusion confirmatory technique used in laboratories in respect to sensitivity and tolerance to different testing conditions Research also highlights that the OneStep ABACard HemaTrace is more sensitive visual than any other visual or presumptive test for blood including Hemastix test strips and Leucocrystal Violet reagent making the test an acceptable and highly useful tool for forensic science Abacus Diagnostics 1999 To accelerate the investigation process and analysis of samples collected from crime scenes the introduction of the OneStep ABACard HemaTrace confirmatory test for human blood in the field is both a substantive and necessary inception for the Forensic Services Group

*Forensic Biology* Richard Li,2008-04-24 Addressing the important subject of forensic DNA analysis this title provides a concise scientific overview of the field The author focuses on the two main areas of forensic analysis identification of biological evidence and forensic DNA analysis

**Presumptive color Tests in Forensic Sciences** Dr.Harminder Singh Bhawara, Dr. Rajesh Mishra,2023-08-04 This book is related to the presumptive tests usually applied for the screening of various exhibits collected and sent for forensic analysis It includes nearly all the color test used for the screening purpose in various branches of forensic science

*Forensic Serology* Shanan S. Tobe,2022-03-01 Forensic Serology provides a comprehensive and complete synopsis of forensic serology The book includes background information on different biological substances that can be detected how the serological tests work what the testing looks like how to interpret the results and what those results tell us Coverage includes all aspects of serological testing including basic presumptive testing confirmatory testing and new methods of testing such as mRNA methylation proteomics and much more The book is written at a level that anyone with basic knowledge of science can fully understand thus filling a gap in the market Covers all aspects of forensic serology and relevant bodily fluids Provides background information on different biological substances how the tests work what the testing looks like how to interpret the results and what the results mean Includes color illustrations that provide readers with a full understanding of forensic serological testing

Identify and Evaluate Current Presumptive Blood Testing Methods and Assess Their Value in Forensic Application Ronald De Bruin, 1997  
Blood is present at the scenes of most crimes of violence. It can be used to determine the sequence of events in a crime and can link a suspect to a crime scene. Today forensic DNA PCR typing is having a significant impact on the investigations of these violent crimes. The verification that a substance or stain located at these scenes is that of blood is the initial step in the identification process. The presence of blood at a crime scene may not be apparent to the investigator as in the case of small spots and smears or when these areas have been cleaned in an attempt to conceal these stains from detection. Food stains, paints, rust, and other reddish brown coloured materials may have the appearance of dried bloodstains, and chemical testing is necessary to make the distinction. Crime scene investigators in the New South Wales Police Service utilise one particular chemical method in the detection of blood at these scenes. Whilst this method appears appropriate as a presumptive test for blood, it has the tendency to produce false positive results with other materials. Whilst further distinction can be made by confirmatory tests generally conducted in a controlled laboratory environment, this delay can disadvantage the crime scene investigator in his effort to carry out an accurate examination of the scene at the time of the examination without misinterpretation as a direct result of these false positive results. This research project has studied current methods of presumptive tests for blood with the following outcomes: i) identify and assess their practical use at scenes of crime for the purpose of blood detection and make a comparison with the current method utilised; ii) evaluate these tests in relation to sensitivity, specificity, stability, convenience of use, and cost.

**The Basics of Investigating Forensic Science** Kathy Mirakovits, Gina Londino-Smolar, 2021-07-15  
The Basics of Investigating Forensic Science: A Laboratory Manual, Second Edition, presents foundational concepts in forensic science through hands-on laboratory techniques and engaging exercises. The text offers numerous lab projects on a range of subjects including fingerprinting, shoeprint analysis, firearms pathology, anthropology, forensic biology, and DNA/drugs/trace evidence analysis, and more. This Second Edition is fully updated to include extensive full-color photos and diagrams to reflect current best practices, focussing on laboratory procedure techniques and interpretation of results. Each laboratory illustrates processes and concepts and how the equipment should be set up for a given exercise. Many of the exercises can be done with minimal laboratory equipment and material, while certain exercises also have additional options and advanced lab exercises for those education institutions with access to more specialized or advanced laboratory equipment. While the sequencing of laboratory exercises in the book is designed to follow The Basics textbook, the lab exercises are intentionally modular and can be performed in any sequence desired by an instructor. The Basics of Investigating Forensic Science, Second Edition, is an excellent resource for introduction to forensic sciences courses, including the companion textbook it was designed to accompany, Forensic Science: The Basics, Fourth Edition. ISBN 9780367251499. The book can be used alongside any textbook and even serve as a stand-alone text for two- and four-year college programs as well as course at the high school level.

**Forensic Science** Stuart H. James, Jon J. Nordby, Suzanne Bell, Jon J. Nordby, Ph.D., 2005-02-10 Written by highly respected forensic scientists and legal practitioners Forensic Science An Introduction to Scientific and Investigative Techniques Second Edition covers the latest theories and practices in areas such as DNA testing toxicology chemistry of explosives and arson and vehicle accident reconstruction This second edition offers a cutting edge presentation of criminalistics and related laboratory subjects including many exciting new features What s New in the Second Edition New chapter on forensic entomology New chapter on forensic nursing Simplified DNA chapter More coverage of the chemistry of explosives and ignitable liquids Additional information on crime reconstruction Revised to include more investigation in computer forensics Complete revisions of engineering chapters New appendices showing basic principles of physics math and chemistry in forensic science More questions and answers in the Instructor s Guide Updated references and cases throughout An extensive glossary of terms

Forensic Analysis of Biological Evidence J. Thomas McClintock, 2014-02-13 A powerful tool in the identification of individuals DNA typing has revolutionized criminal and paternity investigations Widespread analysis is now conducted by public and private laboratories in the United States and abroad Focusing on the basic techniques used in forensic DNA laboratories Forensic Analysis of Biological Evidence A Laboratory Guide for Serological and DNA Typing introduces readers to the science of serological analysis and DNA typing methods and provides a thorough background of the molecular techniques used to determine an individual s identity or parental lineage Originally published as Forensic DNA Analysis A Laboratory Manual this revised work offers updated exercises and protocols for all kinds of DNA and serological analyses with delineated objectives step by step procedures and required laboratory supplies Each exercise in this manual Provides an overview of forensic DNA analysis Explains the sources or types of biological material used in a particular DNA analysis Supplies the background principles and practical methodology for specific serological analysis and DNA typing techniques Simulates human forensic testing and can also be used to simulate a wide range of applications for genetic analysis The book contains an extensive glossary to make readers familiar with terminology used in the forensic analysis of biological evidence as well as basic terms used in molecular biology Those who master the material in this volume will understand the methodology of the investigation in DNA typing develop an understanding of the scientific principles involved in serology and DNA analysis and succeed in analyzing and interpreting the data generated in each exercise with clarity and confidence

**Forensic Chemistry** David E. Newton, 2007 Discusses current research and advances in forensic chemistry including fingerprinting forensic serology toxicology arson investigation and DNA fingerprinting

Sourcebook in Forensic Serology, Immunology, and Biochemistry Robert E. Gaensslen, 1983

DNA Evidence and Forensic Science David E. Newton, 2008 Provides an overview chronology of events glossary and annotated bibliography for forensic science and DNA evidence

*Forensic Aspects of Trace Human Blood Evidence* Christine E. Lemire, 2000

*Hair Analysis in Clinical and Forensic Toxicology* Pascal Kintz, Alberto Salomone, Marco Vincenti, 2015-06-25 Hair Analysis in Clinical and Forensic Toxicology is an essential reference for toxicologists working with and researching hair analysis The text presents a review of the most up to date analytical methods in toxicological hair analysis along with state of the art developments in the areas of hair physiology sampling and pre treatments as well as discussions of fundamental issues applications and results interpretation Topics addressed include the diagnosis of chronic excessive alcohol drinking by means of ethyl glucuronide EtG and fatty acid ethyl esters FAEE the early detection of new psychoactive substances including designer drugs the development of novel approaches to screening tests based on mass spectrometry and the detection of prenatal exposure to psychoactive substances from the analysis of newborn hair Unites an international team of leading experts to provide an update on the cutting edge advances in the toxicological analysis of hair Demonstrates toxicological techniques relating to a variety of scenarios and exposure types Ideal resource for the further study of the psychoactive substances drug facilitated crimes ecotoxicology analytical toxicology occupational toxicology toxicity testing and forensic toxicology Includes detailed instructions for the collection preparation and handling of hair and how to best interpret results

**Encyclopedia of Forensic Sciences**, 2012-12-28 Forensic science includes all aspects of investigating a crime including chemistry biology and physics and also incorporates countless other specialties Today the service offered under the guise of forensic science includes specialties from virtually all aspects of modern science medicine engineering mathematics and technology The Encyclopedia of Forensic Sciences Second Edition Four Volume Set is a reference source that will inform both the crime scene worker and the laboratory worker of each other s protocols procedures and limitations Written by leading scientists in each area every article is peer reviewed to establish clarity accuracy and comprehensiveness As reflected in the specialties of its Editorial Board the contents covers the core theories methods and techniques employed by forensic scientists and applications of these that are used in forensic analysis This 4 volume set represents a 30% growth in articles from the first edition with a particular increase in coverage of DNA and digital forensics Includes an international collection of contributors The second edition features a new 21 member editorial board half of which are internationally based Includes over 300 articles approximately 10pp on average Each article features a suggested readings which point readers to additional sources for more information b a list of related Web sites c a 5 10 word glossary and definition paragraph and d cross references to related articles in the encyclopedia Available online via SciVerse ScienceDirect Please visit [www.info.sciencedirect.com](http://www.info.sciencedirect.com) for more information This new edition continues the reputation of the first edition which was awarded an Honorable Mention in the prestigious Dartmouth Medal competition for 2001 This award honors the creation of reference works of outstanding quality and significance and is sponsored by the RUSA Committee of the American Library Association

Technology in Forensic Science Deepak Rawtani, Chaudhery Mustansar Hussain, 2020-11-02 The book Technology in Forensic Science provides an integrated approach by reviewing the usage of modern forensic tools as well as the methods for interpretation of the results Starting with best practices on sample taking the book then reviews analytical methods such as high resolution microscopy and chromatography biometric approaches and advanced sensor technology as well as emerging technologies such as nanotechnology and taggant technology It concludes with an outlook to emerging methods such as AI based approaches to forensic investigations

*Forensic Science Reform* Wendy J Koen, C. Michael Bowers, 2016-12-16 *Forensic Science Reform Protecting the Innocent* is written for the nonscientist to help make complicated scientific information clear and concise enough for attorneys and judges to master. This volume covers physical forensic science namely arson shaken baby syndrome non accidental trauma bite marks DNA ballistics comparative bullet lead analysis fingerprint analysis and hair and fiber analysis and contains valuable contributions from leading experts in the field of forensic science. 2018 PROSE Awards Winner Award for Textbook Social Services Association of American Publishers. Offers training for prosecuting attorneys on the present state of the forensic sciences in order to avoid reliance on legal precedent that lags decades behind the science. Provides defense attorneys the knowledge to defend their clients against flawed science. Arms innocence projects and appellate attorneys with the latest information to challenge convictions that were obtained using faulty science. Uses science specific case studies to simplify issues in forensic science for the legal professional. Offers a detailed overview of both the failures and progress made in the forensic sciences making the volume ideal for law school courses covering wrongful convictions or for undergraduate courses on law legal ethics or forensics.

**Fundamentals of Forensic DNA Typing** John M. Butler, 2009-09-30 *Fundamentals of Forensic DNA Typing* is written with a broad viewpoint. It examines the methods of current forensic DNA typing focusing on short tandem repeats (STRs). It encompasses current forensic DNA analysis methods as well as biology technology and genetic interpretation. This book reviews the methods of forensic DNA testing used in the first two decades since early 1980s and it offers perspectives on future trends in this field including new genetic markers and new technologies. Furthermore, it explains the process of DNA testing from collection of samples through DNA extraction, DNA quantitation, DNA amplification and statistical interpretation. The book also discusses DNA databases which play an important role in law enforcement investigations. In addition, there is a discussion about ethical concerns in retaining DNA profiles and the issues involved when people use a database to search for close relatives. Students of forensic DNA analysis, forensic scientists and members of the law enforcement and legal professions who want to know more about STR typing will find this book invaluable. Includes a glossary with over 400 terms for quick reference of unfamiliar terms as well as an acronym guide to decipher the DNA dialect. Continues in the style of *Forensic DNA Typing 2e* with high profile cases addressed in DNA Boxes, Data Notes, Applications sections throughout. Ancillaries include instructor manual, Web site with tailored set of 1000 PowerPoint slides including figures, links to online training websites and a test bank with key.

**Forensic Drug Analysis** Future Science Ltd, 2013

**The Forensic Laboratory Handbook** Ashraf Mozayani, Carla Noziglia, 2007-11-08 A comprehensive and easy to read introduction to the work of the modern forensic laboratory. The authors explain in simple language the capabilities and limitations of modern forensic laboratory procedures, techniques, analyses and interpretations. Here the interested reader will find an understandable and fascinating introduction to the complex worlds of forensic serology, DNA chemistry, crime reconstruction, digital evidence, explosives, arson, fingerprints, firearms, tool marks, odontology and pathology. Additional chapters address the problems of assuring quality and seeking trace evidence in the forensic laboratory.

## Whispering the Secrets of Language: An Emotional Quest through **Presumptive And Confirmatory Forensic Tests**

In a digitally-driven earth where screens reign great and immediate connection drowns out the subtleties of language, the profound techniques and emotional nuances concealed within words usually get unheard. Yet, set within the pages of **Presumptive And Confirmatory Forensic Tests** a charming literary treasure sporting with raw feelings, lies an extraordinary quest waiting to be undertaken. Published by an experienced wordsmith, that wonderful opus invites viewers on an introspective trip, lightly unraveling the veiled truths and profound affect resonating within the fabric of each and every word. Within the psychological depths of this poignant review, we can embark upon a genuine exploration of the book is key styles, dissect their charming publishing fashion, and succumb to the powerful resonance it evokes heavy within the recesses of readers hearts.

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web scientific papers that are reviewed by anonymous experts peer review direct explanations of how the natural world is supposed to act in certain situations law an organized way of gathering and analyzing evidence about the natural world  
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