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LEGAL CHALLENGES OF DNA EVIDENCE ADOPTION IN INDIAN COURTS - A CRITICAL EXAMINATION OF EVIDENTIARY, CONSTITUTIONAL, AND INSTITUTIONAL DIMENSIONS

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ABSTRACT

The progressive integration of deoxyribonucleic acid (DNA) evidence into criminal adjudication represents one of the most significant forensic advancements of the modern era. In India, however, this integration has proceeded far more tentatively than in comparable common law jurisdictions, owing to a confluence of legislative gaps, constitutional anxieties, institutional limitations, and deep-rooted societal apprehensions. This article offers a systematic analysis of the principal legal obstacles confronting the adoption of DNA evidence in Indian courts. It maps the current statutory landscape—spanning the Bharatiya Sakshya Adhiniyam, 2023,[1] the Bharatiya Nagarik Suraksha Sanhita, 2023,[2] and recent statutory developments such as the DNA Technology (Use and Application) Regulation Bill, 2019[3]—against the constitutional guarantees enshrined in Articles 20(3), 21, and 14 of the Constitution of India.[4] The article examines judicial attitudes toward DNA evidence, explores issues of consent, chain of custody, laboratory accreditation, and the risks of wrongful profiling, and situates the Indian predicament within a broader comparative framework. It concludes that a constitutionally calibrated, rights-sensitive legislative architecture is an urgent necessity if India is to harness the probative power of DNA evidence without sacrificing the values of personal liberty and equal protection .

Keywords: *DNA evidence, Bharatiya Sakshya Adhiniyam, Bharatiya Nagarik Suraksha Sanhita, forensic science, privacy rights, chain of custody, DNA Technology Bill 2019, constitutional law, criminal justice*

I. Introduction

Few scientific innovations have reshaped the architecture of criminal proof as dramatically as DNA profiling. Since Alec Jeffreys first demonstrated genetic fingerprinting at the University of Leicester in 1984,[5] DNA analysis has become a cornerstone of forensic investigation in jurisdictions as varied as the United Kingdom, the United States, Australia, and Germany. It has simultaneously secured convictions in cases of heinous crimes and exonerated individuals who spent years in wrongful imprisonment.[6] The technology's capacity to establish biological identity with near-mathematical precision has earned it a reputation as the "gold standard" of forensic evidence.

India's engagement with this transformative technology, however, tells a more complicated story. While Indian courts have not categorically rejected DNA evidence—indeed, several landmark rulings have affirmed its admissibility[7]—the absence of a dedicated

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legislative framework, persistent concerns about laboratory standards, and fundamental tensions with constitutional rights have combined to produce an environment of judicial ambivalence and forensic inconsistency. The Indian criminal justice system continues to grapple with threshold questions that many of its counterparts resolved decades ago: When may biological samples be compelled from an accused? Who is authorised to create and maintain DNA databases? What evidentiary weight should a DNA match attract? How must the chain of custody be documented to satisfy judicial scrutiny?

These questions are not merely procedural. They go to the heart of how a constitutional democracy balances the state's interest in effective crime detection against the individual's entitlements to bodily integrity, informational privacy, and the presumption of innocence. The enactment of the DNA Technology (Use and Application) Regulation Bill, 2019, as passed by the Lok Sabha, represented a serious legislative attempt to address these tensions—yet the Bill lapsed without receiving Rajya Sabha approval,[8] leaving a legislative vacuum that courts and investigators are left to navigate with imperfect tools.

This article proceeds in five further parts. Part II sketches the existing legal framework governing forensic and DNA evidence in India. Part III analyses the constitutional dimensions of compelled DNA sampling. Part IV examines institutional and procedural challenges, including chain of custody and laboratory quality. Part V surveys the comparative landscape. Part VI presents conclusions and reform recommendations.

II. The Existing Legal Framework Governing DNA Evidence in India

2.1 The Bharatiya Sakshya Adhiniyam, 2023

The Bharatiya Sakshya Adhiniyam, 2023 (BSA), which came into force on 1 July 2024 repealing the Indian Evidence Act, 1872, inherits both the promise and the limitations of its colonial predecessor in so far as DNA evidence is concerned.[9] Like the Act it replaces, the BSA contains no express provision dedicated to DNA evidence. Its provisions on expert opinion (Sections 39–44) furnish the principal gateway through which scientific evidence, including DNA profiling, enters the courtroom.[10] Section 39 authorises courts to receive the opinions of persons specially skilled in matters of science, art, or foreign law, and the courts are expected to continue treating forensic DNA analysts as experts within this provision, as they did under the corresponding Section 45 of the repealed Act.

The BSA does mark a modest legislative step forward in that Section 57 expressly recognises electronic records and their certification, reflecting the legislature's awareness that modern evidence increasingly takes digital form—a category that encompasses electronic DNA laboratory reports and chain-of-custody logs. Nevertheless, the BSA, like the Indian Evidence Act before it, provides no statutory criteria for assessing the reliability of novel scientific methodologies. Courts are still left to invoke general principles of relevance and probative value without the benefit of structured admissibility standards akin to the Daubert framework in the United States[11] or the reliability gateway developed under English law following R v. Dlugosz.[12] The result is that judicial assessments of DNA evidence risk remaining idiosyncratic and inconsistent across benches, a deficit that a dedicated forensic evidence legislation must ultimately remedy.

2.2 The Bharatiya Nagarik Suraksha Sanhita, 2023

INDIAN JOURNAL OF LEGAL REVIEW [IJLR – IF SCORE – 7.58]

VOLUME 6 AND ISSUE 3 OF 2026

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The Bharatiya Nagarik Suraksha Sanhita, 2023 (BNSS), which came into force on 1 July 2024 in supersession of the Code of Criminal Procedure, 1973, carries forward and strengthens the forensic evidence provisions of its predecessor.[13] Section 185 of the BNSS re-enacts the substance of the former Section 53A of the CrPC, authorising the medical examination of a person accused of rape and the collection of biological samples—including blood, semen, hair follicles, and swabs—for the purpose of DNA profiling. Section 184 preserves the broader power to examine an accused by a registered medical practitioner at the request of a police officer of designated rank. Importantly, the BNSS introduces an explicit reference to forensic investigation as an integral component of the investigative process, reflecting a legislative acknowledgment that scientific evidence is no longer incidental but central to modern criminal procedure.

Section 349 of the BNSS, corresponding to the erstwhile Section 311A of the CrPC, empowers a Magistrate to order the examination of any person for the purpose of identification, and courts are expected to read this provision to encompass DNA sampling in appropriate circumstances.[14] A significant addition under the BNSS is Section 176(3), which mandates forensic examination of crime scenes in offences punishable with seven or more years' imprisonment, and requires a forensic expert to visit the scene wherever possible—a provision that directly contemplates the collection of biological trace evidence. Nonetheless, the BNSS, like its predecessor, stops well short of providing a comprehensive framework governing the collection, preservation, analysis, and court presentation of DNA material, leaving critical procedural questions unresolved.

2.3 The DNA Technology (Use and Application) Regulation Bill, 2019

The DNA Technology (Use and Application) Regulation Bill, 2019 represented the most ambitious legislative effort to date to create a structured legal regime for DNA evidence in India.[15] The Bill proposed the establishment of a DNA Regulatory Board to supervise accreditation of laboratories, the creation of national and regional DNA databanks, and the regulation of the use of DNA profiles in criminal investigations, civil disputes, and identification of missing persons. It also sought to create categories of DNA databanks corresponding to different classes of individuals—convicted offenders, undertrials, missing persons—each with distinct rules for entry, retention, and deletion.

Civil liberties organisations and several parliamentary committees raised significant objections to the Bill, centring on the breadth of the proposed databanks, the adequacy of consent safeguards, the risk of mass surveillance, and the vulnerability of DNA data to misuse by state and non-state actors.[16] These concerns ultimately contributed to the Bill's failure to secure Rajya Sabha passage. The lapse of the Bill has left India without a statutory framework commensurate with the complexity of issues that DNA evidence raises.

III. Constitutional Dimensions: Rights, Bodily Integrity, and the Presumption of Innocence

3.1 Article 20(3) and the Privilege Against Self-Incrimination

Article 20(3) of the Constitution of India provides that no person accused of an offence shall be compelled to be a witness against himself.[17] The right against self-incrimination, which this provision enshrines, has been interpreted by the Supreme Court of India in a series of important decisions. In State of Bombay v. Kathi Kalu Oghad,[18] an eleven-judge bench held that the provision protects testimonial compulsion but does not extend to physical evidence such as handwriting specimens or fingerprints, since these do not involve the accused "becoming a witness" in the relevant sense.

The application of this reasoning to DNA evidence, however, has proved contentious. On one view, the extraction of a biological sample is merely a physical act, analogous to

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fingerprinting, and therefore falls outside the protection of Article 20(3). On another, the informational content of DNA—which reveals not merely identity but also genetic predispositions, familial relationships, and health conditions—makes compelled DNA sampling qualitatively different from a fingerprint impression.[19] The Supreme Court in Selvi v. State of Karnataka,[20] while addressing narcoanalysis and brain-mapping rather than DNA specifically, emphasised that testimonial acts encompass any process that compels an individual to supply information derived from their mental faculties. Whether that reasoning extends to the collection of biological material for genetic analysis remains an open and genuinely contested constitutional question.

3.2 Article 21 and the Right to Privacy

The landmark ruling of the Supreme Court in Justice K.S. Puttaswamy (Retd.) v. Union of India[21] unanimously recognised privacy as a fundamental right protected under Article 21 of the Constitution. The Court held that informational privacy—the right to control information about oneself—forms a core strand of this constitutional guarantee. DNA data, which contains uniquely sensitive personal and hereditary information, squarely engages this right.

The implications of Puttaswamy for DNA evidence are far-reaching. Any legislative scheme authorising the collection, storage, and use of DNA profiles must satisfy the three-part test articulated in that decision: it must be authorised by law, it must pursue a legitimate state aim, and it must be proportionate to that aim.[22] Blanket databanks encompassing wide categories of persons—including suspects who are never charged or persons acquitted of offences—would face serious proportionality challenges, particularly in the absence of robust deletion and expungement provisions.

3.3 Article 14 and the Risk of Discriminatory Profiling

Article 14's guarantee of equality before the law raises a distinct but equally important set of concerns. Critics of DNA databank proposals have observed that, given the documented disparities in the criminal justice system's treatment of marginalised communities—including Scheduled Castes, Scheduled Tribes, and religious minorities—an unrestricted DNA databank regime risks entrenching patterns of discriminatory surveillance.[23] If the composition of the databank disproportionately reflects the demographics of those most frequently arrested or prosecuted, rather than those who are actually guilty of offences, it may operate as an instrument of structural bias rather than neutral forensic science.

IV. Institutional and Procedural Challenges

4.1 Chain of Custody and Evidentiary Integrity

The probative value of DNA evidence is entirely dependent on the integrity of the chain of custody—the documented sequence of possession, handling, and analysis of the biological sample from the moment of collection to the presentation of results in court.[24] A break or irregularity in the chain of custody can render DNA evidence inadmissible or, if admitted, significantly diminish its weight.

Indian courts have repeatedly encountered chain of custody failures in cases involving DNA evidence. Problems include undocumented sample collection, inadequate packaging and labelling, delays in transit to laboratories, lack of temperature-controlled storage, and insufficient documentation of who handled the sample at each stage.[25] In Krishan Kumar Malik v. State of Haryana,[26] the Supreme Court cautioned against over-reliance on DNA evidence where the chain of custody had not been satisfactorily established, underscoring the need for meticulous documentation procedures. These concerns are not merely technical; they reflect deeper questions about the capacity and commitment of the investigative infrastructure to meet the evidentiary demands of forensic science.

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4.2 Laboratory Standards and Accreditation Deficits

The reliability of DNA analysis is critically dependent on the quality of the laboratory performing it. Internationally, forensic laboratories are expected to achieve accreditation against standards such as ISO/IEC 17025,[27] which governs the competence of testing and calibration laboratories. In India, the number of accredited forensic science laboratories (FSLs) capable of performing DNA analysis to international standards remains limited relative to the country's geographic size and caseload.

The National Accreditation Board for Testing and Calibration Laboratories (NABL) accredits forensic laboratories in India, but accreditation is neither universal nor mandatory.[28] Many state FSLs operate without formal accreditation, and significant disparities exist in equipment, expertise, and quality assurance protocols across different states. The absence of standardised, audited protocols for DNA analysis—covering procedures such as Short Tandem Repeat (STR) profiling, mixture interpretation, and statistical analysis—means that the scientific foundation of DNA evidence presented in court may vary substantially depending on which laboratory performed the analysis.

4.3 Consent, Vulnerable Populations, and the Ethics of Sampling

The question of consent to DNA sampling is ethically complex and legally unresolved in India. While compelled sampling in the context of serious crimes may be justified under the existing framework, the position regarding vulnerable populations—including minors, persons with intellectual disabilities, and individuals in custodial settings—remains particularly fraught.[29] The power dynamics of interrogation and detention cast doubt on whether consent obtained in such circumstances is genuinely voluntary.

The DNA Technology Bill, 2019 proposed written consent as a prerequisite for sampling in civil matters but did not adequately address the situation of undertrial prisoners or persons detained without charge.[30] The gap between the legal form of consent and its substantive reality in conditions of detention is one that any credible legislative framework must confront directly.

4.4 Mixture Analysis and the Risk of False Matches

A recurring source of error in DNA evidence is the analysis of mixed profiles—samples containing genetic material from more than one individual. Mixed profiles are common in sexual offence cases, burglaries, and violent crimes, and their interpretation requires sophisticated probabilistic reasoning that is prone to analyst subjectivity.[31] Courts and juries may be ill-equipped to evaluate the statistical complexities involved, particularly when expert witnesses present probability ratios without clearly contextualising their assumptions or limitations.

The risk of cognitive bias in DNA evidence—where analysts are aware of the investigative hypothesis and may (consciously or unconsciously) interpret ambiguous data in a manner consistent with it—is an established concern in forensic science literature.[32] India currently lacks a regulatory requirement for blind verification or mandatory second-opinion review of DNA analyses, creating conditions under which such biases may operate unchecked.

V. Comparative Perspectives: Lessons for India

A survey of DNA evidence regulation in comparable jurisdictions reveals a range of approaches from which India might usefully draw.

In the United Kingdom, the Police and Criminal Evidence Act 1984, as amended by the Criminal Justice Act 2003 and the Protection of Freedoms Act 2012,[33] provides a detailed statutory framework governing the taking of DNA

samples, the operation of the National DNA Database (NDNAD), and the circumstances in which profiles may be retained or must be deleted. The 2012 Act, enacted in response to the European Court of Human Rights decision in S. and Marper v. United Kingdom,[34] introduced important safeguards against indefinite retention of DNA profiles of persons not convicted of any offence. The UK's approach demonstrates that mass databanks can be operated within a rights-respecting framework, provided that clear rules govern inclusion, retention, and deletion.

The United States employs a combined federal-state system anchored by the Combined DNA Index System (CODIS),[35] administered by the Federal Bureau of Investigation. Federal and state statutes define the categories of offenders whose profiles must be submitted, the standards laboratories must meet, and the circumstances of access to the databank. The Daubert standard, as applied to DNA evidence, has generated an extensive body of case law on the admissibility of specific DNA methodologies, providing a structured mechanism for excluding unreliable scientific evidence at the trial stage.[36]

Germany's approach, anchored in the Federal DNA Analysis Act and the strict oversight of the Bundeskriminalamt,[37] reflects the particular sensitivity of genetic data in a jurisdiction where the memory of Nazi racial science has shaped attitudes toward biological databases. The German framework imposes rigorous limitations on the classes of offences that trigger DNA sampling, requires judicial authorisation for collection, and mandates prompt deletion of profiles following acquittal or expiry of the relevant limitation period.

Each of these frameworks offers instructive models for India, and none is a simple transplant. India's federal structure, its vast geographic and demographic diversity, the resource constraints of its state forensic laboratories, and the specific constitutional values articulated in its jurisprudence require a framework that is authentically Indian in its design—informed by comparative experience but shaped by domestic realities.

VI. Conclusion and Recommendations

The legal challenges confronting DNA evidence in Indian courts are substantial, but they are not insuperable. They reflect structural deficits—legislative, institutional, and constitutional—that can be addressed through sustained and thoughtful reform. The following observations synthesise the analysis above into concrete directions for reform.

- First, India urgently requires a comprehensive DNA evidence legislation. The lapse of the DNA Technology Bill, 2019 should be treated as an opportunity for reconsideration rather than abandonment. A revised Bill should incorporate robust consent safeguards, clearly defined categories of DNA databank inclusion, mandatory accreditation for forensic laboratories, and a principled framework for the retention and expungement of DNA profiles. It must be designed with the proportionality standard of Puttaswamy in mind at every stage.
- Second, the Bharatiya Sakshya Adhiniyam, 2023 and the Bharatiya Nagarik Suraksha Sanhita, 2023 should be further amended to include specific provisions governing the admissibility of DNA evidence, incorporating structured criteria for evaluating the reliability of forensic methodologies analogous to, but not mechanically replicating, the Daubert framework. While the BNSS has taken a commendable step in mandating forensic examination at crime scenes, it does not address the evidentiary standards that courts must apply when assessing the probative value of DNA results. Such provisions would supply a principled basis for judicial evaluation and reduce the

inconsistency that currently characterises DNA admissibility decisions.

- Third, the National Forensic Sciences University and the NABL should be empowered and resourced to develop and enforce mandatory accreditation standards for all forensic laboratories performing DNA analysis. Unaccredited results should be inadmissible as a matter of law, creating a direct incentive for laboratory upgrading across all states.
- Fourth, the evidentiary rules governing chain of custody must be codified and made mandatory, with non-compliance treated as raising a rebuttable presumption against admissibility. Training programmes for police officers, prosecutors, and judges on the proper handling and evaluation of DNA evidence should be systematically developed and delivered.
- Fifth, independent oversight of DNA databanks—through a statutory regulatory body with judicial representation and civil society participation—is essential to guard against the risks of discriminatory profiling and mission creep.

DNA evidence, when collected, analysed, and presented within a principled legal framework, has the potential to significantly improve the accuracy and reliability of criminal adjudication in India. The country's courts have correctly recognised its probative power. The task ahead is to build the legislative and institutional architecture that allows that power to be exercised without compromising the constitutional values of liberty, equality, and dignity that define India's commitment to the rule of law.

Footnotes

1. Bharatiya Sakshya Adhiniyam, 2023 (Act No. 47 of 2023) (India), which came into force on 1 July 2024, repealing the Indian Evidence Act, 1872.

2. Bharatiya Nagarik Suraksha Sanhita, 2023 (Act No. 46 of 2023) (India), which came into force on 1 July 2024, repealing the Code of Criminal Procedure, 1973.

3. DNA Technology (Use and Application) Regulation Bill, 2019 (Bill No. 23 of 2019), as passed by Lok Sabha on 9 January 2019.

4. Constitution of India, arts. 14, 20(3), 21.

5. A.J. Jeffreys, V. Wilson & S.L. Thein, 'Hypervariable Minisatellite Regions in Human DNA' (1985) 314 Nature 67, 67-73.

6. National Registry of Exonerations, University of Michigan Law School, Annual Reports 2000–2024 (noting DNA as a contributing factor in over 375 exonerations in the US alone).

7. See, e.g., Kamti Devi v. Poshi Ram (2001) 5 SCC 311; Murli Saran Gupta v. State of UP, 2008 Cri LJ 3390.

8. DNA Technology (Use and Application) Regulation Bill, 2019: The Bill was passed by the Lok Sabha on 9 January 2019 but lapsed upon dissolution of the 16th Lok Sabha without receiving Rajya Sabha approval. As of the time of writing, no fresh Bill has been introduced.

9. P.V. Ramana, 'DNA Evidence in Indian Courts: A Critical Analysis' (2018) 60 Journal of the Indian Law Institute 1, 4.

10. Bharatiya Sakshya Adhiniyam, 2023, ss. 39–44 (expert opinion provisions, corresponding to ss. 45–51 of the repealed Indian Evidence Act, 1872); s. 57 (electronic records).

11. Daubert v. Merrell Dow Pharmaceuticals, Inc., 509 US 579 (1993) (US Supreme Court establishing the trial judge as gatekeeper for expert scientific testimony).

12. R v. Dlugosz [2013] EWCA Crim 2; [2013] 1 Cr App R 32 (Court of Appeal of England and Wales elaborating a reliability-based admissibility standard for DNA and other forensic evidence).

13. Bharatiya Nagarik Suraksha Sanhita, 2023, s. 185 (re-enacting the substance of s. 53A of the Code of Criminal Procedure, 1973, inserted by the Code of Criminal Procedure (Amendment) Act, 2005); see also s. 184 (general power of medical examination of accused).

14. BNSS, s. 349 (corresponding to the former s. 311A of the CrPC); s. 176(3) (mandating forensic examination of crime scenes in offences punishable with seven or more years' imprisonment).

15. DNA Technology (Use and Application) Regulation Bill, 2019, ss. 17–33 (DNA Regulatory Board), ss. 34–44 (DNA Databanks).

16. See Submissions of the Internet Freedom Foundation and the Centre for Law and Policy Research before the Parliamentary Standing Committee on Science and Technology, Environment and Forests (2019).

17. Constitution of India, art. 20(3): 'No person accused of any offence shall be compelled to be a witness against himself.'

18. State of Bombay v. Kathi Kalu Oghad AIR 1961 SC 1808 (eleven-judge bench holding that Article 20(3) does not protect an accused from providing physical evidence such as handwriting specimens).

19. Maneka Gandhi v. Union of India AIR 1978 SC 597 (establishing that Article 21 imposes a requirement of procedural fairness that goes beyond mere legal authorisation); see also the broader analysis in Justice K.S. Puttaswamy (Retd.) v. Union of India (2017) 10 SCC 1.

20. Selvi v. State of Karnataka (2010) 7 SCC 263 (Supreme Court holding that narcoanalysis, brain-mapping, and polygraph examination violate Articles 20(3) and 21 of the Constitution when administered without consent).

21. Justice K.S. Puttaswamy (Retd.) v. Union of India (2017) 10 SCC 1 (nine-judge bench unanimously recognising the right to privacy as a fundamental right under Article 21).

22. Id., para. 325 (Chandrachud J.) (setting out the tripartite test: legality, legitimate aim, and proportionality).

23. National Campaign on Dalit Human Rights, 'Dalits and the Criminal Justice System: A Report on Structural Exclusion' (2020) 12–17 (documenting over-representation of Scheduled Caste individuals in undertrial populations).

24. A.K. Jain & B. Nag, 'Forensic DNA in India: Opportunities and Challenges' (2019) 10 Journal of Forensic Research 452, 454–455.

25. See Santosh Kumar Singh v. State through CBI (2010) 9 SCC 747 (noting evidentiary concerns about the integrity of biological exhibits).

26. Krishan Kumar Malik v. State of Haryana (2011) 7 SCC 130 (Supreme Court cautioning against reliance on DNA evidence where chain of custody was inadequately established).

27. ISO/IEC 17025:2017 General Requirements for the Competence of Testing and Calibration Laboratories (International Organization for Standardization, Geneva, 2017).

28. National Accreditation Board for Testing and Calibration Laboratories (NABL), 'Accreditation of Forensic Science Laboratories: Policy Document' (NABL 2022).

29. Mrinal Satish, 'Discretion, Discrimination and the Rule of Law: Reforming Rape Sentencing in India' (Cambridge University Press, 2017) 188–192 (on the vulnerabilities of marginalised accused in the criminal process).

30. DNA Technology Bill, 2019, cl. 21 (consent provisions applicable to certain categories of civil matters, with limited provisions for undertrial persons).

31. I.W. Evett et al., 'The Impact of the Principles of Evidence Interpretation on the Structure and

Content of Statements' (2000) 40 Science and Justice 233, 235–237.

32. Itiel Dror & Greg Hampikian, 'Subjectivity and Bias in Forensic DNA Mixture Interpretation' (2011) 51 Science and Justice 204, 204–208.

33. Police and Criminal Evidence Act 1984 (UK), as amended by Criminal Justice Act 2003 (UK) and Protection of Freedoms Act 2012 (UK), ss. 1–25 (regulating DNA sampling and retention).

34. S. and Marper v. United Kingdom [2008] ECHR 1581 (Grand Chamber of the European Court of Human Rights holding that indefinite retention of DNA profiles of unconvicted persons violates Article 8 of the European Convention on Human Rights).

35. DNA Identification Act, 1994, 42 USC § 14132 (establishing CODIS and the National DNA Index System in the United States).

36. Daubert v. Merrell Dow Pharmaceuticals, Inc., 509 US 579 (1993); General Electric Co. v. Joiner, 522 US 136 (1997); Kumho Tire Co. v. Carmichael, 526 US 137 (1999) (the 'Daubert trilogy' governing admissibility of expert evidence in federal courts).

37. DNA-Identitätsfeststellungsgesetz (DNA Identity Act), BGBl I 1997, 1846 (Germany); Bundeskriminalamtgesetz (Federal Criminal Investigation Office Act), BGBl I 1997, 165 (Germany).

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5. DNA Technology (Use and Application) Regulation Bill, 2019 (Bill No. 23 of 2019).
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7. DNA Identification Act, 1994, 42 USC § 14132 (USA).

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4. Krishan Kumar Malik v. State of Haryana (2011) 7 SCC 130.
5. R v. Dlugosz [2013] EWCA Crim 2.
6. S. and Marper v. United Kingdom [2008] ECHR 1581.
7. Selvi v. State of Karnataka (2010) 7 SCC 263.
8. State of Bombay v. Kathi Kalu Oghad AIR 1961 SC 1808.

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