

# Rapid DNA: a powerful new tool in the fight against human trafficking



## Summary

- The US DHS has increased efforts to combat and prevent human trafficking
- To help fight human trafficking, the US DHS partnered with Bode Technology to implement a rapid DNA testing program for verification of family relationship claims of those seeking asylum
- Bode Technology deployed more than 40 Applied Biosystems™ RapidHIT™ ID Systems across 16 geographically separate sites
- The deployed rapid DNA systems supported by a reachback center and portal provided immediate technical support to end users and increased success rates

## Overview

As many as 40 million people or more, mostly women and children, are victims of human trafficking globally, including hundreds of thousands in the United States.<sup>1</sup> Human trafficking refers to the use of violence, coercion, or deception to transport someone into a situation of exploitation—the US State Department recognizes human trafficking as “modern slavery.”<sup>1</sup> Victims may be forced into the sex trade, labor, marriage, begging, militias, illicit organ transplantation, or fraudulent adoptions. Over the last decade, the US Department of Homeland Security (DHS) has ramped up efforts to raise national public awareness of these terrible crimes, train law enforcement agencies to increase detection and investigation capabilities, protect victims, and bring traffickers to justice.

One of the newest tools supporting these efforts in the US and around the world is “rapid DNA,” a cutting-edge DNA technology. Rapid DNA—a fast, fully automated method of processing genetic information—makes it possible to analyze DNA right at the point of action. Rapid DNA is already being used by many law enforcement agencies to provide critical investigative information to fight a range of crimes. To combat child trafficking in particular, rapid DNA can quickly confirm or disprove an individual’s claim to be a parent of a child. The use of DNA to verify authentic parent–child relationships and fraudulent claims can help increase arrests, prosecutions, and convictions of traffickers; minimize the need for victim testimony during legal proceedings; and deter future criminal activity.

As part of its effort to fight human trafficking and mitigate the increase in fraudulent family relationship claims, the DHS recently turned to Bode Technology to implement a comprehensive DNA testing program. During the multiyear effort, Bode deployed and operated multiple rapid DNA units across field-forward locations along the southern border to determine the validity of parent–child relationships among individuals entering or attempting to enter the United States. At the center of Bode’s rapid DNA program is the RapidHIT ID System. This compact, easy-to-use instrument from Thermo Fisher Scientific can be operated directly by law enforcement agencies in the field to process samples and provide answers in as little as 90 minutes.

## Implementing the rapid DNA program

The program implemented by Bode for DHS was robust. Sixteen separate field-forward and geographically separated rapid DNA facilities were established and more than 7,000 DNA samples were processed with greater than 94% first-pass success rates. Additionally, Bode deployed scientists to support the development of protocols and provide formal training and certifications to more than 300 field operators. The first-of-its-kind program relied on a network of more than 40 rapid DNA instruments spaced across the border in conjunction with Bode's accredited laboratory, staffed with personnel who provided around-the-clock support.

A specially designed portal was created to enable government personnel and the instruments in the field to connect, interface, and communicate with a scientist-staffed rapid DNA reachback center, providing fast 24/7/365 field operations support. With reachback support, a forensic analyst can review data from field-deployed rapid DNA instruments and provide technical support when needed.



## Case studies

The following examples of documented cases from the DHS program demonstrate the value of rapid DNA in supporting DHS efforts to both root out fraudulent parent-child relationship claims by suspected human traffickers and verify authentic parent-child relationships.

## Case study 1

A 22-year-old male claimed to be traveling with his 19-month-old daughter and presented a counterfeit birth certificate. Agents noticed discrepancies and questioned the validity of the document. A rapid DNA test revealed the subjects were not related. After being presented with the DNA evidence, the subject admitted that he was not the child's father and instead claimed the child belonged to his first cousin. He also claimed that he did not have any contact information for the biological mother of the child. He admitted to utilizing the fraudulent document in an attempt to be released into the US as a "family unit."

## Case study 2

A 24-year old female claimed to be traveling with her 8-year-old "son" and presented a counterfeit birth certificate. Agents noticed discrepancies and questioned the validity of the document. Rapid DNA testing revealed a negative parental relationship with a 99.99% certainty. After questioning, the subject admitted that she was not related to the child and was utilizing the fraudulent document in an attempt to be released into the United States as a "family unit." The subject claimed that she borrowed the child from the child's mother and that the mother also provided her with the fraudulent birth certificate.

## Conclusions

Bode's comprehensive rapid DNA support program utilizing RapidHIT ID DNA systems provided the DHS with a complete human identification solution, from implementation to support. The reachback support program increased the DHS first-pass success rate from an average of 80% to over 94%.<sup>2</sup> The program led to hundreds of arrests for child trafficking and/or smuggling as the result of DNA-supported investigations. The program also confirmed relationships that were in question. The rapid DNA effort saved the operators critical investigation hours and generated cost savings in the tens of thousands of dollars.<sup>2</sup> The reachback center fielded more than 1,400 requests with an average response time of less than 15 minutes, and a majority of requests filled in the first 5 to 10 minutes.<sup>2</sup> According to Bode's Director of Federal Operations Dane Plaza, awareness of the DHS rapid DNA testing program has also been "serving as a deterrent for future offenses."

Combating child trafficking and verifying real family relationships through the collection and analysis of DNA using traditional lab testing often has long wait times for confirmation, but rapid DNA enables this process to be completed in 90 minutes, enabling expedited actionable intelligence. The DHS case studies suggest that the full potential of rapid DNA is realized when proper instrumentation and training, together with 24/7/365 support, are in place. Such fully integrated implementation of rapid DNA demonstrates significant potential to become a key tool to combat human trafficking, and the DHS example can serve as a roadmap for other agencies who wish to utilize rapid DNA technology to address human exploitation and trafficking. To learn more about how you can help stop human trafficking, visit the website of the US Department of State.<sup>3</sup>



#### References

1. The Global Slavery Index (2013) United Nations Global Initiative to Fight Human Trafficking.
2. "Lessons Learned from Implementing and Operating a 24/7/365 Rapid DNA Program Across the United States," Dane Plaza, Director of Federal Operations, Bode Technology.
3. Identify and Assist a Trafficking Victim, US Department of State.  
<https://www.state.gov/identify-and-assist-a-trafficking-victim/>.

 Find out more about the RapidHIT ID System at  
[thermofisher.com/rapiddna](https://thermofisher.com/rapiddna)

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