

## Utah Will Use STRmix to Interpret Crime Scene Evidence

Expert Forensic Software Can Interpret Previously Unresolvable Mixed DNA Profiles

WASHINGTON, DC, US, March 15, 2023 /EINPresswire.com/ -- The Utah Bureau of Forensic Services Laboratory System is now using STRmix<sup>™</sup> forensic software in its scientific testing of <u>crime scene evidence</u>. This is the state's only full-service forensic science provider, offering scientific consulting, law enforcement training, crime scene response, laboratory testing services, and courtroom testimony.

Launched 2012, STRmix<sup>™</sup> represents a breakthrough for forensic analysts in that it can assist in investigations by using DNA evidence that previously was considered too complex or degraded to interpret. That capability has enabled STRmix<sup>™</sup> to produce usable, interpretable, and legally admissible DNA evidence in more than 380,000 criminal cases worldwide to date.

"STRmix<sup>™</sup> has proven to be particularly effective in resolving violent crime and sexual assault cases, as well as cold cases in which evidence originally dismissed as inconclusive was able to be reexamined," explains STRmix<sup>™</sup> co-developer John Buckleton DSc, FRSNZ, Principal Scientist at the New Zealand Institute of Environmental Science and Research (ESR).

According to Dr. Buckleton, STRmix<sup>™</sup> includes a function "that allows the software to match mixed <u>DNA profiles</u> directly against a database. This represents a major advance for cases where there are no suspects and there is DNA from multiple contributors in one sample."

Today, STRmix<sup>™</sup> is being used by 78 organizations in the United States, including forensic laboratories operated by the FBI and the Federal Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF). It is also being used by 26 forensic laboratories internationally, including labs in Canada, the United Kingdom, Europe, Asia, the Middle East, the Caribbean, and all state and territory forensic labs in New Zealand and Australia.

Dr. Buckleton attributes the widespread adaptation of STRmix<sup>™</sup> to its ability "to interpret DNA results faster than the previous binary interpretation method and its ability to use more of the information in a DNA profile. By using STRmix<sup>™</sup>, analysts are able to combine DNA profiles from different kits in the same interpretation and compare profiles against a person of interest in order to calculate a likelihood ratio, enabling the resolution of previously unresolvable DNA mixtures regardless of the number of contributors."

In late 2022, the STRmix<sup>™</sup> team launched the latest version of its forensic software, STRmix<sup>™</sup> v2.10, following extensive technical development and testing. Version 2.10 contains a number of new features, including the introduction of a Visualize Weights module to help forensic analysts investigate DNA interpretation results and additional improvements to dropout modelling which will allow crime labs using FaSTR<sup>™</sup> DNA to set a low, or even no, analytical threshold.

FaSTR<sup>™</sup> DNA, which was also developed by the STRmix<sup>™</sup> team, seamlessly integrates with STRmix<sup>™</sup> (when in use) to rapidly analyze DNA profiles and assign a Number of Contributors (NoC) estimate.

In addition to STRmix<sup>™</sup> v2.10 and FaSTR<sup>™</sup> DNA, the STRmix<sup>™</sup> team developed and previously launched DBLR<sup>™</sup>, an application that when used with STRmix<sup>™</sup> allows forensic labs to undertake superfast database searches, visualize the value of DNA mixture evidence, and carry out mixture-to-mixture matches and extensive kinship analyses. Together, FaSTR<sup>™</sup> DNA, STRmix<sup>™</sup>, and DBLR<sup>™</sup> complete the full workflow from analysis to interpretation and database matching.

For more information, visit <u>http://www.strmix.com</u>.

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