

New Hampshire State Police to Use Latest Version of FaSTR DNA

v1.1.1 Enables Forensic Labs to Analyze Files from Spectrum CE System

WASHINGTON, DC, UNITED STATES, June 27, 2023 /EINPresswire.com/ -- The New Hampshire State Police are set to be the first users of FaSTR™ DNA v1.1.1 – the newest version of STRmix Limited's expert [forensic software](#) to rapidly analyze [DNA profiles](#) generated by genetic analyzers and standard profiling kits, that features the ability to analyze .promega files for 8-color multiplexes from the new Spectrum CE System.

"8-color STR chemistry used on Spectrum CE System enables forensic laboratories to efficiently obtain more data from each sample, including those that are complex or degraded. This technology, together with the FaSTR DNA software, will benefit the forensic community," says Dr. Rohaizah James of Promega Corporation, developer of the Spectrum CE System.

The Spectrum CE System is an automated 8-capillary electrophoresis instrument intended for separation and detection of fluorescently labeled DNA fragments, including short tandem repeat (STR) markers. The Spectrum CE System is the first commercially available instrument to support 8-color STR analysis. The instrument can also support existing 5- and 6-color kits and create .fsa and .promega output files for sample analysis.

FaSTR™ DNA v1.1.1 – developed by the same team that created STRmix™, sophisticated forensic software capable of resolving mixed DNA profiles previously regarded as too complex or degraded to interpret – is being released to facilitate the additional instrumentation options available to forensic laboratories. "There was an urgent requirement from our user laboratory to be able to use FaSTR™ DNA to analyze 8-dye profiles generated using the Promega PowerPlex® 35GY profiling kit and the Spectrum CE System. We are pleased to provide this capability and to establish FaSTR™ DNA as a viable analysis software that is compatible with all mainstream CE instrument systems," says Dr. Meng-Han Lin, Senior Scientist, STRmix Team.

Like the previous version of FaSTR™ DNA, v1.1.1 expedites the otherwise time-consuming process of calling alleles and ensures consistency in DNA analysis and Number of Contributors (NoC) estimation, which is critical to meeting quality assurance criteria.

FaSTR™ DNA v1.1.1 seamlessly integrates with STRmix™ (when in use) for even greater speed and efficiency in analysis and interpretation of complex mixed DNA profiles. When used in

combination with STRmix™ and DBLR™ (software which allows forensic laboratories to combine mixtures with pedigrees in the versatile Kinship module, undertake superfast database searches, visualize the value of DNA mixture evidence, and carry out mixture-to-mixture matches), FaSTR™ DNA completes the full workflow from analysis to interpretation and investigation through database matching and kinship testing.

The effectiveness of these solutions, coupled with the highly successful track record STRmix™ has established in producing usable, interpretable, and legally admissible DNA evidence in more than 380,000 criminal cases, has led to their widespread adoption in forensic labs worldwide. Eighty federal, state, and local agencies in the U.S. and 26 forensic labs internationally currently use STRmix™ for DNA analyses.

FaSTR™ DNA works by applying a set of fully configurable rules to analyze most DNA profiles automatically. In some instances, DNA analysis is more complex, and automated heuristics (analysis rules) alone may not be able to resolve all profiles. Where the intervention of a DNA analyst is required, FaSTR™ DNA readily provides all details related to possible ambiguity of a peak (i.e. stutter type, stutter ratio, composite stutter, pull-up proportion, N/shoulder peak, peak morphology, low homozygote, heterozygote imbalance) and signals a requirement for the DNA analyst to make a decision. It then records and highlights changes made by the analyst.

“Recognizing the need for speed, accuracy, and simplicity, particular attention has been paid in developing FaSTR™ DNA to simplifying the analysis procedure. Doing so enables reliable results to be achieved with minimum effort,” explains Dr. Lin.

The New Hampshire State Police will begin using FaSTR™ DNA v1.1.1 in conjunction with their use of the Spectrum CE System. Operating seven troop stations around the state, in addition to a Marine Patrol facility and State Office Complex Police Force at New Hampshire Hospital, the State Police provide a visible law enforcement presence across New Hampshire.

To see a brief overview of FaSTR™ DNA, visit <https://vimeo.com/423795087/16f82f22b1>.
For more information on FaSTR™ DNA v1.1.1, visit <https://www.strmix.com/fastr>.

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