



10 Tips for Testifying to Y-STR Results

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There's no denying it—testifying in court can be an intimidating experience. However, this doesn't mean you should quake in fear when you get a subpoena for a Y-STR case. And by all means, don't let the intimidation of court be the deciding factor in whether or not to implement Y-STR testing in your own laboratory. In the past, some laboratories claimed to have decided not to implement Y-STR testing because Y-STR technology was "too new." Sorry folks, but that excuse won't work any longer. Y-STRs are now well established and used in laboratories worldwide. And better yet, Y-STR testing may provide results when autosomal STR testing has failed to provide probative information. After having testified in several dozen Y-STR cases, here are some Y-STR testifying tips we offer that may be useful:

1. Having a good Y-STR testimony experience begins before the trial even starts! Make sure the attorney understands Y-STR testing and what the results mean. Have a pre-trial conference, either in person or over the phone, to discuss these points and to help formulate a battery of examination questions.
2. If STR testing was performed prior to Y-STR testing, an introduction to DNA was likely already covered in trial. Do the jury a favor and don't re-hash all this material. Rather, jump right into Y-STR testing following voir dire.
3. Always provide a brief introduction to Y-STR testing and state its limitations. Y-STR testing is male-specific and paternally inherited. Make sure to point out that Y-STR testing alone cannot uniquely identify a particular male as can be done with autosomal STR testing.
4. Point out the similarities between Y-STR and STR testing. Both tests examine multiple short tandem repeats on the DNA, follow the same general steps (examination, extraction, quantitation, amplification, detection, and analysis), and utilize PCR.
5. Identify the advantages of Y-STR testing and examples of when it is typically used (i.e. few/no sperm cells present or the inability to separate out the male and female DNA types). Make sure to mention why Y-STR testing was utilized in the case at hand.
6. If you are testifying to Y-STR mixture results, be prepared to explain to the jury how you concluded that DNA from more than one male was detected.
7. Y-STR testing can never uniquely identify someone, so don't overstate what a Y-STR "match" means. Use the phrase "cannot be excluded" instead.
8. Describe how Y-STR statistics are calculated using the counting method and why the product rule cannot be used as it is done in STR testing. It may also be beneficial to point out that the counting method is not new—it has been used for over a decade with mitochondrial DNA testing!
9. Be cautious about applying the database count to the general population. If you are asked to apply the counting method statistics to the general population, provide the database count along with the 95% confidence interval.
10. Keep in mind that all Y-STR statistics are limited by the size of the database and that the frequencies obtained through the database counts are likely quite conservative. Put the Y-STR statistics in context—although a 1 in 1 million or greater statistic may be commonplace with STR analysis (and what jurors have come to expect), it isn't with Y-STR analysis. With Y-STR testing, statistics are more often in the range of 1 in several thousand due to the database size.

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The forensic and legal communities have widely accepted Y-STR testing as a relevant and valid technology, not only in the United States, but internationally as well. Although there have been several Y-STR admissibility challenges in the United States, to our knowledge none of them have been successful. In fact, courts have already allowed the presentation of Y-STR results in at least 25% of the States in the United States (probably more). So next time you get a Y-STR subpoena, don't be frightened—you're entering well-charted territory!

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