

# SmarTest™ DNA Test Simulation Tool



Technical Bulletin 40-030

Setting the Standard for Quality DNA Identification

## About SmarTest™ DNA Simulation

The SmarTest™ DNA Simulation Tool is designed to help demystify complex DNA testing scenarios and provide a glimpse of what a test result might look like before the time and expense of testing. Its friendly interface allows users to create valuable reports within seconds.

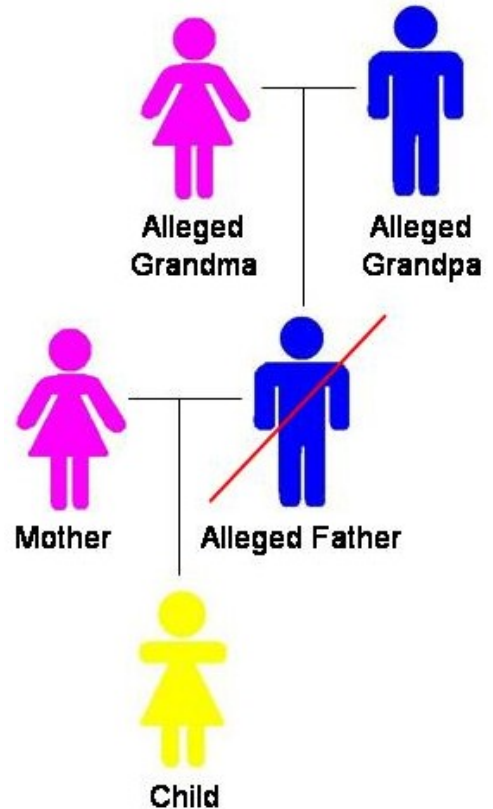
## How Simulation Works

The intrinsic nature of the DNA molecule makes it an extraordinarily useful investigative tool when trying to scientifically prove or disprove relatedness between family members. A hypothetical pedigree is created from the individuals available for testing and input into a computerized kinship simulator. The program utilizes a Monte Carlo genotype generator that assigns genotypes in a random, consistent and unbiased fashion. Through multiple simulations, a range of expected likelihood ratios are calculated, assuming a prior probability of 0.5. SmarTest™ simulations are powered by DNA View™, an integrated software package for DNA identification by Charles Brenner, Ph.D.

## Limitations

The simulation results are generated assuming analysis with the 15 STR markers in the Identifier profile and do not guarantee any specific testing outcome. The actual results are dependent on the genetics of the individuals tested. Allele frequencies are derived from the following population databases: JFS, 1999, Vol. 44 (6), JFS 2001, Vol. 46 (3) or FSC 2001 Vol. 3 (3). In instances where male relatives are being tested, Y chromosome analysis could potentially be an extremely powerful tool in addition to autosomal DNA analysis.

Please contact a Chromosomal DNA Case Manager at 877.434.0292 to obtain a free copy of this software.



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