

## **A CASE OF BIOLOGICAL RELATIONSHIP, QUESTIONABLE BY A SIBLING TEST, IS SUPPORTED BY DIRECT PARENTAGE TESTING.**

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Immigration authorities often suggest DNA testing to support an alleged biological relationship when official documentation is unavailable. Direct parentage tests are usually clear cut; sibling tests can be less so.

A naturalized U. S. citizen petitioned for admission of his alleged parents and two alleged full siblings into the United States. Relationship tests were originally requested for paternity and maternity calculations against the petitioner only, with full sibling relationship calculations between the petitioner and each of the presumed brothers.

The parentage calculations supported the maternal and paternal relationships with the petitioner to probabilities of 99.998% (paternity) and 99.999%, respectively. A full sibling relationship between the petitioner and one of the alleged siblings returned a probability of 98.28%, below the laboratory's goal of 99+% but still interpretable as highly probable. A similar calculation between the petitioner and the other alleged sibling yielded a probability of about 80.4%, too low to be convincing and well below the recommended minimum of 99.5% from Homeland Security. In our experience, probabilities this low are often not raised much by additional STR testing.

Having DNA samples from the alleged parents of all three adult children allowed direct parentage testing for all. Refocusing the calculations on parentage showed all three alleged siblings, including the questioned sibling of the petitioner with the low probability of sibship, to have parental probabilities well in excess of 99.99%. The immigration petitions for the two alleged siblings were supported without the need for submitting a questionable sibling probability. ¶