



CariGenetics® *Family4Sure*

Siblingship Testing Using DNA Microarrays

Traditional siblingship test rely on a relatively few number of markers to determine familial relationships. The most common traditional testing platforms use between 16 and 24 markers. Using hundreds of thousands of markers, DNA microarrays have since allowed for familial determinations that are far more accurate. Results from siblingship testing using microarray data are reported in centiMorgans, which is a unit used to describe genetic distance and linkage. Based on the number of centiMorgans (cM) that are shared between alleged siblings, the degree of the relationship can confidently be determined.

Reference Values

Full-Siblings:

Average Shared Segments: **2,629 cM**

Established Range: **2,209-3,384 cM**

Half-Siblings

Average Shared Segments: **1,783 cM**

Established Range: **1,317-2,312 cM**

Samples Tested

Sample ID	Full Name	DOB	Role
ABC123	Sample Client 1	01/01/2000	Alleged Half-Sibling
ABC456	Sample Client 2	01/01/2000	Alleged Half-Sibling

Results

The comparison of microarray data from Client 1 and Client 2 produced the following test statistics:

Largest Segment: **131.7 cM**

Total of Segments: **2,017.0 cM**

Number of Matching Segments: **37**

SNPs Used in Evaluation: **486,443**

Interpretation: The number of shared segments between Client 1 and Client 2 strongly support a half-sibling relationship. The number of segments shared between 1 and 2 is 2,017.0 cM, which falls in the expected range of 1,317-2,312 cM between half-siblings.