



California Science Center
CALIFORNIA STATE SCIENCE FAIR
2001 PROJECT SUMMARY

<p>Your Name (List all student names if multiple authors.) Jeff Danciger; Brent Ford; Tomer Petel</p>	<p>Science Fair Use Only</p>
<p>Project Title (Limit: 120 characters. Those beyond 120 will be ignored. See pg. 9) Are Jeff's Parents Really His Parents?</p>	<p>S0308</p>
<p>Preferred Category (See page 5 for descriptions.) 3 - Biochemistry / Molecular Biology</p>	<p>Division _ Junior (6-8) <u>X</u> Senior (9-12)</p>
<p>Abstract (Include Objective, Methods, Results, Conclusion. See samples on page 14.) Use no attachments. Only text inside these boxes will be used for category assignment or given to your judges.</p> <p>Our objective was to determine if Jeff Danciger is the biological son of Jan and Michael Danciger. We isolated DNA from cheek cell samples from Jeff, Michael, Jan, Jeff's sister (positive control), Brent (negative control), and Tomer (negative control) . We then amplified four common dinucleotide repeat sequence markers using the PCR technique. Next, we subjected the DNA fragments to gel electrophoresis to determine there size, stained and photographed the gels and compared the bands on the gels.</p> <p>In each of the four gels (each representing a different marker) Jeff had one allele in common with Jan and one in common with Michael. Jeff's sister (positive control) also has one allele in common with each parent for each marker. Brent and Tomer had at least one allele that matched neither Jan nor Michael therefore disqualifying both of them as possible sons of Jan and Michael.</p> <p>The results indicate that Jeff is, in all likelihood, the son of Jan and Michael. Assuming a one in ten frequency in the population for each allele, the probability is calculated as only one in 1,562,500 that Jeff is not the son of Jan and Michael or that his alleles match those of Jan and Michael by chance.</p>	
<p>Summary Statement (In one sentence, state what your project is about.) Using four genetic markers we showed that the chances that Jeff Danciger is not the biological son of Jan and Michael Danciger is 1 in 1,562,500.</p>	
<p>Help Received in Doing Project (e.g. Mother helped type report; Neighbor helped wire board; Used lab equipment at university X under the supervision of Dr. Y; Participant in NSF Young Scholars Program) See Display Regulation #8 on page 4. Used laboratory reagents and equipment at the Jules Stein Eye Institute, UCLA under the supervision of Dr Michael Danciger.</p>	