



California Science Center
CALIFORNIA STATE SCIENCE FAIR
2001 PROJECT SUMMARY

Your Name (List all student names if multiple authors.) Alissa F. Minkovsky	Science Fair Use Only
Project Title (Limit: 120 characters. Those beyond 120 will be ignored. See pg. 9) Are Essential Genes Better Conserved Through Evolution than Non-Essential Genes?	J0313
	Division <input checked="" type="checkbox"/> Junior (6-8) <input type="checkbox"/> Senior (9-12)
Preferred Category (See page 5 for descriptions.) 3 - Biochemistry / Molecular Biology	
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>The researcher conducting this project wanted to find if essential genes were better conserved through evolution than non-essential genes using a series of database inquiries to compare genetic makeup of genes and related how well they have been conserved in other organisms to their function and how this relates to their conservation.</p> <p>The series of database inquiries involved using sources such as BDGP (Berkeley Drosophila Genome Database) to find the amino acid sequences and functions of certain Drosophila genes. The amino acid sequences of these Drosophila genes in the zeste-white chromosomal region were used and compared to those of other mapped organisms such as mus musculus and Homo sapiens as well as realizing that observed functions that have been seen in humans occur in Drosophila and mice as well as sharing a set of strikingly similar amino acid sequences. Mostly essential genes were found to be conserved and the researcher is still to chart the data and repeat the process before anything could be concluded.</p>	
Summary Statement (In one sentence, state what your project is about.) This project involves genetic comparison and relating it to observed functions and how these functions are conserved in evolution.	
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. Professor Michael L. Goldberg helped with finding sources and reviewing literature; Mr. Louis Garcia (teacher) helped proofread and correcting report as well as applying to County Fair	