



California Science Center
CALIFORNIA STATE SCIENCE FAIR
2001 PROJECT SUMMARY

Your Name (List all student names if multiple authors.) Max R Biessmann	Science Fair Use Only <h1 style="margin: 0;">S0304</h1>
Project Title (Limit: 120 characters. Those beyond 120 will be ignored. See pg. 9) Longer Chomosome Ends = Longer Life?	Division _ Junior (6-8) <u>X</u> 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>Objective: Does the length of the telomeres affect the life span of fruit flies? Telomeres are the ends of chromosomes. I wanted to test if there is a correlation between the length of the telomere and the life span of flies.</p> <p>Methods: Four different strains of <i>Drosophila melanogaster</i> were used for these experiments. Several vials of 70 to 100 flies for each strain were set up and flies were counted at various intervals until all of the flies died. Life span of the different fly strains were determined in three different independent experiments aand compared in several graphs. Squashes of salivary gland nuclei from the fly larvae were made to obtain polytene chromosomes to measure the ends. The length of the telomeres of the polytene chromosomes was measured by using a labelled probe for the ends. This probe was added to the polytene chromosomes and a fluoresently labelled antibody was used for detection. Pictures were taken to view and compare the chromosome ends. This was done to compare the length of the chromosomes ends of the four strains. A microscope with fluorescent filters and a computer was used to take pictures.</p> <p>Results: The four different strains had all different telomere lengths. One strain had especially long telomeres when compared to the other three. All four strains had very long ends on the x chromosomes. Some strains very short telomeres on some chromosomes. The strain with the longest telomeres on all chromosomes did not have the longest life span when compared to the other strains with shorter telomeres. All of the different strains lived different length of time regardless of the length of their telomeres.</p> <p>Conclusion: The length of the telomeres in the four different fly strains does not affect the life span of the fruit flies.</p>	
Summary Statement (In one sentence, state what your project is about.) My project was to determine if there was a correlation between telomere length and life span in fruit flies.	
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 at UCI, Dept. of Biological Chemistry under supervision of Dr Marika Walter and Dr. Harald Biessmann	