



**CALIFORNIA STATE SCIENCE FAIR  
2003 PROJECT SUMMARY**

<b>Name(s)</b> <b>Richard Hsu</b>	<b>Project Number</b> <b>S0408</b>
<b>Project Title</b> <b>Understanding CG7900, a Drosophila Gene Important for Lifespan</b>	
<b>Abstract</b> <b>Objectives/Goals</b> Aging is a universal process among organisms in which homeostasis decreases and chance of death increases. Trying to understand aging in a lower organism, such as Drosophila, is a possible intermediate step process in understanding aging in humans. <b>Methods/Materials</b> An overexpression screen using the gal4 upstream activation sequence binary system was performed to identify long-lived mutants. In addition, a genomic transgenic was replicated to verify that overexpression of CG7900 extends lifespan in an independent line. A recombinant was made between EP3306 and the daughterless driver to look at interactions with other long-lived lines in the lab. <b>Results</b> Results show that CG7900 is the cause of increased lifespan and the gene itself seems to play a vital role in the metabolism process. <b>Conclusions/Discussion</b> In conclusion, the CG7900 plays a crucial role in the extension of lifespan, which may be a stepping-stone for aging research.	
<b>Summary Statement</b> The CG7900 gene plays a vital role in the extension of Drosophila lifespan, which may be a key factor in understanding aging.	
<b>Help Received</b> Used lab equipments at Caltech under the supervision of Brian Zid. Special thanks to my parents for providing transportation when needed.	