



**CALIFORNIA STATE SCIENCE FAIR  
2016 PROJECT SUMMARY**

<b>Name(s)</b> <b>Hongjia (Ashley) Yang</b>	<b>Project Number</b>  36199
<b>Project Title</b> <b>Humanin and Daf-2 Increase C. elegans Lifespan and Memory Functionality</b>	
<p style="text-align: center;"><b>Abstract</b></p> <p><b>Objectives/Goals</b> The objective of this study is to determine the effects of humanin and daf-2 on C. elegans' longevity and memory function, as a preliminary study in understanding their effects on human longevity and memory function.</p> <p><b>Methods/Materials</b> Use C. elegans with and without humanin and daf-2 genes as a model system to examine the lifespan and memory function in response to chemotaxical cue (butanone) at various time points.</p> <p><b>Results</b> Results show C. elegans expressing humanin and daf-2 had increased lifespan and momory functionality, and even more so for C. elegans with the crossed humanin/daf-2 genes.</p> <p><b>Conclusions/Discussion</b> These findings indicate that humanin and daf-2 can improve C. elegans' lifespan and momory function. It also suggest from this study that humanin and daf-2 or equivalent proteins in human may plan important roles in anti-aging.</p>	
<b>Summary Statement</b> Humanin and daf-2 increase C. elegans lifespan and memory functionality	
<b>Help Received</b> I designed and performed the experiments by myself. I got help in understaining the science about C. elegans and relevant genes from Dr. Pinchas Cohen, Dean, USC Davis School of Gerontology and Dr. Kelvin Yen, Research Assistant Professor, USC Davis School of Gerontology	