



**CALIFORNIA STATE SCIENCE FAIR
2002 PROJECT SUMMARY**

Name(s) Karina H. Nakayama	Project Number S1421
Project Title Can Ibuprofen Reduce the Amount of Apolipoprotein E in Neuronal Plaques?	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals Apolipoprotein E has been linked with the formation of senile plaques in neurons. ApoE collects at the ends of neurons, interfering with inter-neural communications. These plaques, which contribute to neuronal death, are one of the hallmarks of Alzheimer's Disease. Ibuprofen is suspected of altering the binding ability of ApoE. If Ibuprofen can reduce the amount of ApoE, it would model a partial reduction of neuronal plaques.</p> <p>Methods/Materials Utilizing an anti-serum specifically developed against ApoE, the ELISA procedure was used to determine any noticeable fluctuations in levels of ApoE. This was done by comparing untreated antigen samples to samples that had been incubated with 20mg/ml of Ibuprofen.</p> <p>Results Initial results did not reflect a significant reduction in the amount of Apolipoprotein E in the treated sample. However, after a slight alteration in the procedure, a clear decrease in ApoE levels was observed.</p> <p>Conclusions/Discussion Treatment with Ibuprofen resulted in an immediate lowering of Apolipoprotein E levels. Since ApoE makes up a portion of neuronal plaques, Ibuprofen may be able to reduce the size of the plaques or retard their growth. Consequently, Ibuprofen may be a possible answer to slowing down the progression of Alzheimer's Disease.</p>	
Summary Statement Using Ibuprofen to reduce the amount of Apolipoprotein E in neuronal plaques	
Help Received Used lab supplies and spectrophotometer at UCR	