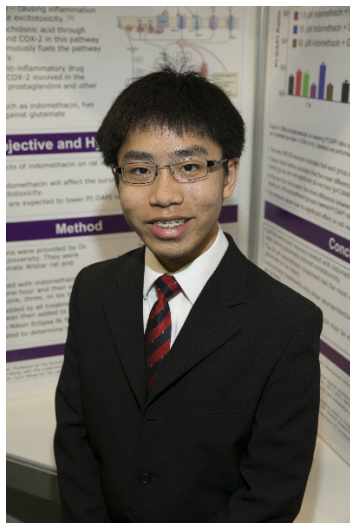


CWSF 2017 - Regina, Saskatchewan



Matthew Zhou

Neuroprotective Effect of Indomethacin against Glutamate Induced Excitotoxicity

Challenge: Health

Category: Intermediate

Region: Thames Valley

City: London, ON

School: Central S.S.

Abstract: Neuroinflammation plays a significant role in the progression of neurodegenerative diseases. This project studies the neuroprotective effect of indomethacin, a nonsteroidal anti-inflammatory drug, on rat cortical embryonic neurons exposed to an inflammatory environment caused by glutamate-induced excitotoxicity. Results show that indomethacin treatment does have a positive effect in reducing cell dying rates during glutamate excitotoxicity. This protective effect only exists when excessive glutamate is

Biography

My name is Matthew Zhou and I am a Grade 10 student at London Central Secondary School. My interests include music, mathematics, chess, and science. I started playing piano at the age of six and have won several awards at both regional and provincial competitions. Among these achievements include a Gold medal for the top Grade 10 RCM mark in Ontario. I also learned to play the violin at school. My interest in mathematics has led me to win multiple awards in math contests. I also enjoy playing chess and have won many awards in regional chess tournaments. This year, I was also on the school Junior Reach for the Top Team. My strong passion for neuroscience helped me develop my science fair project this year. After learning that neuroinflammation is a prominent feature in neurodegenerative diseases, I discovered that certain drugs called NSAIDS may be able to treat this inflammation. This inspired the creation of my project. With my strong interest in medical sciences, I hope to pursue a career in medicine. My advice for any newcomers to the science fair is to never ignore ideas that seem too difficult. With hard work and dedication, anything can be achieved!

Awards

Value

Excellence Award - Intermediate - Gold Medal Sponsor: Youth Science Canada	\$250
Western University Scholarship Gold Medallist - \$4000 Entrance Scholarship Sponsor: Western University	\$4 000
Total	\$4 250