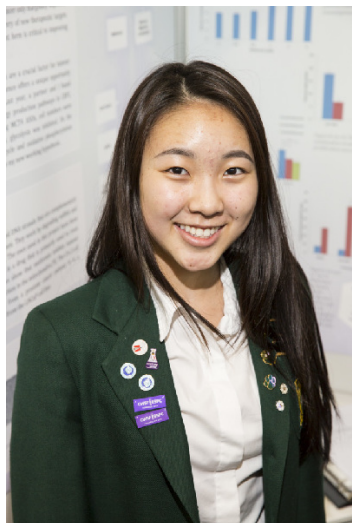


CWSF 2015 - Fredericton, New Brunswick



Joy Wang

ATP Starvation: Targeting Cancer Glucose Metabolism Using Metformin And MCT4 ASO

Challenge: Health

Category: Senior

Region: Greater Vancouver

City: Vancouver, BC

School: York House School

Abstract: A co-targeting therapy against castration-resistant prostate cancer was tested by targeting two major ATP production pathways in combination: glycolysis and oxidative phosphorylation. Antisense oligonucleotides were used against monocarboxylate transporter 4 to target glycolysis, and metformin was used to target oxidative phosphorylation. Results show this therapy to be more effective for treatment of advanced prostate cancer.

Biography

Joy Wang is a grade 11 student attending York House School in Vancouver, BC. She is a competitive dancer, passionate artist, but most importantly an aspiring scientist. Since the age of three, Joy has surrounded herself in the arts of Chinese dance and has dabbled in contemporary and ballet. She is a company member of the Lorita Leung Dance Academy and spends 11 hours at the studio each week, choreographing original pieces in her free time. Recently, she has completed her Chinese Dance Syllabus Examination Teachers Certification as well as winning gold in the North American Chinese Dance Competition; she will be performing at Disney World's Dance the World 2016 in Orlando, Florida. Being passionate for many fine arts, Joy has spent a majority of her time exploring the different forms of traditional art as well. In fact, she won the Canada Wide ExploreART Competition several years ago. This past school year, Joy has been blessed to have the opportunity to volunteer at a pharmacy and meanwhile research the various ATP production pathways in cancerous cells; she believes targeting the altered energy metabolism of these cells is critical in a successful therapy. Post-secondary, she plans to study health sciences.

Awards

Value

Excellence Award - Senior - Bronze Medal Sponsor: Youth Science Canada	
University of Ottawa Entrance Scholarship Senior Bronze Medallist - \$1000 Entrance Scholarship Sponsor: University of Ottawa	\$1 000
Western University Scholarship Bronze Medallist - \$1000 Entrance Scholarship Sponsor: Western University	\$1 000
Total	\$2 000