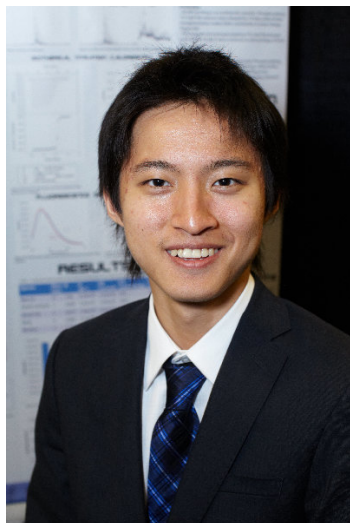


CWSF 2012 - Charlottetown, Prince Edward Island



Weige Zhao

Enhancing Chemotherapy

Challenge: Health

Category: Senior

Region: Toronto

City: Toronto, ON

School: A.Y. Jackson S.S.

Abstract: This investigation assays the phospho-regulation of the eIF4E/4E-BP2 interaction, a system implicated in many cancer types. Residues on 4E-BP2 were progressively phosphorylated and its binding with eIF4E was assessed using isothermal titration calorimetry. Phosphorylating 2 sites on 4E-BP2 significantly weakened affinity and increased enthalpy and entropy. These results will lay the ground work for further investigation of this interaction as a drug target.

Biography

Change has been a big part of my life. I was born in Beijing, but have lived in London, Singapore, Vancouver and Toronto. In fact, I've changed schools every single year since Grade 8! Similarly, my areas of interest have varied quite a bit, oscillating from politics to finances. That was until 2 years ago, when a trip to the zoo inspired me into Biology, and my passion took over. From then, I became the leader of science clubs, took part in science competitions, organized science-related events, worked in science labs, went to school in the Ontario Science Centre... You name anything "nerdy", I've probably done it! My current project regarding cancer stemmed from my last project about neurology. The same system that governs cellular mechanisms in the brain is implicated in many cancers. The realization of conserved patterns throughout Nature's many intricacies inspired and awed me, and hence the project was born. If I were honored with the opportunity to provide advice for students who want to do a similar project, I would say: Be confident! I went through lists of professors and faced countless rejections before securing this opportunity. But in the end, it's worth it!

Awards

Value

Challenge Award - Health - Senior Sponsor: Canadian Institutes of Health Research	\$1 000
Excellence Award - Senior - Gold Medal Sponsor: Youth Science Canada	\$1 500
Dalhousie University Faculty of Science Entrance Scholarship Senior Gold Medallist - \$5000 Entrance Scholarship Sponsor: Dalhousie University, Faculty of Science	\$5 000
UBC Science (Vancouver) Entrance Award Senior Gold Medallist - \$4000 Entrance Scholarship Sponsor: The University of British Columbia (Vancouver)	\$4 000
University of Manitoba Entrance Scholarship Senior Gold Medallist - \$5000 Entrance Scholarship Sponsor: University of Manitoba	\$5 000
University of Ottawa Entrance Scholarship Senior Gold Medallist - \$4,000 Entrance Scholarship Sponsor: University of Ottawa	\$4 000
Western University Scholarship Gold Medallist - \$4000 Entrance Scholarship Sponsor: Western University	\$4 000
Total	\$24 500

Youth Science Canada
PO Box 297
Pickering ON L1V 2R4
www.youthscience.ca / info@youthscience.ca
416-341-0040