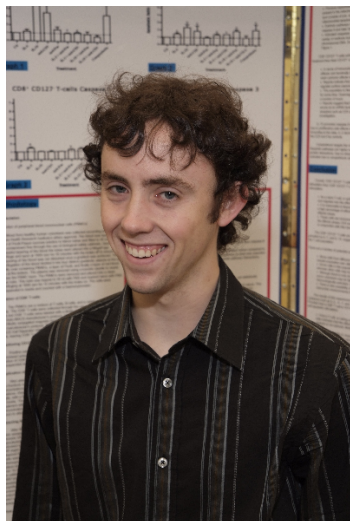


## CWSF 2007 - Truro, Nova Scotia



### James MacLeod

#### CD127 Influence in Protecting CD8+ T-cells from Apoptosis

**Division:** Life Sciences / None

**Category:** Senior

**Region:** Ottawa

**City:** Dunrobin, ON

**School:** All Saints H.S.

**Abstract:** Apoptosis is a naturally occurring cellular process which assists the body in a number of functions including maintaining homeostasis, removing dysfunctional cells, and fighting viral infection such as HIV. CD127 is a key cell survival molecule present on the surface of CD8+ T-cells which is down-regulated in HIV infection. This project investigates the role of CD127 in protecting CD8+ T-cells from apoptosis.

#### Biography

My objective is to pursue my passion in science at Queen's University. At the Ottawa Regional Science Fairs in 2005, 2006 and 2007 my projects won first place in their divisions including the Pfizer Canada award for the most outstanding project at the show in 2005 and 2006. I have represented Ontario at the Canada Wide Science Fairs in 2005, 2006 winning honorable mentions and a scholarship to the Perimeter Institute International Summer School for Young Physicists. My 2006 and 2007 projects investigated various aspects of T-cells in relation to HIV. I researched these projects under the mentorship of Dr. Angela Crawley in Dr. Jonathan Angel's laboratory at the Ottawa Health Research Institute (OHRI). In 2006 I won first place in the regional and national Sanofi Aventis Biotechnology Challenges, a paid summer research position at OHRI, and an invitation to represent Canada in 2007 at the International Sanofi BioGeneius Competition in Boston. At school I have founded a science club. My hobbies include scuba diving, sailing, rugby, computing and playing the saxophone. I love downhill skiing and I am a Canadian Ski Instructors' Alliance Level 3 internationally certified skiing instructor and a Canadian Ski Coaches' Federation Level 1 race coach.

#### Awards

#### Value

|  |                 |
|--|-----------------|
| Dalhousie University Faculty of Science Entrance Scholarship<br>Senior Gold Medallist - \$4000 Entrance Scholarship<br>Sponsor: Dalhousie University, Faculty of Science | \$4 000         |
| UBC Science (Vancouver) Entrance Award<br>Senior Gold Medallist - \$4000 Entrance Scholarship<br>Sponsor: The University of British Columbia (Vancouver)                 | \$4 000         |
| The University of Western Ontario Scholarship<br>Gold Medallist - \$2000 Entrance Scholarship<br>Sponsor: University of Western Ontario                                  | \$2 000         |
| Gold Medal - Health Sciences - Senior<br>Sponsor: Canadian Institutes of Health Research   | \$1 500         |
| <b>Total</b>   | <b>\$11 500</b> |