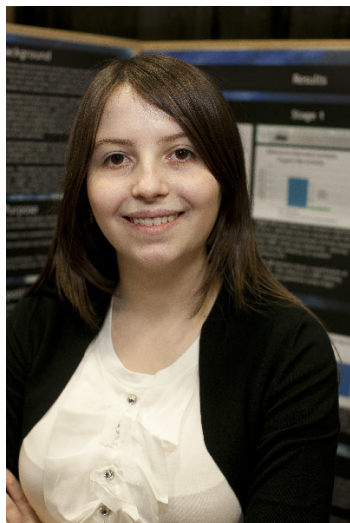


# CWSF 2011 - Toronto, Ontario



## Rebecca Todesco

### Airborne Attack

**Challenge:** Health

**Category:** Senior

**Region:** Calgary Youth

**City:** Calgary, AB

**School:** Queen Elizabeth Junior Senior High School

**Abstract:** *Alternaria alternata* causes asthma but its allergenic mechanism is unknown. I hypothesized that *A. alternata* contains serine proteinases that activate proteinase-activated receptors (PARs). I used enzyme-activity assays, zymography and activity-based probes to identify a trypsin-like enzyme. I found that *A. alternata* can activate PAR2 to stimulate calcium signalling. This concludes that *A. alternata* contains a trypsin-like serine proteinase that via PAR2 activation accentuates allergenic activity.

### Biography

My name is Rebecca Todesco and I am a grade eleven student. I have been participating in my local Science Fair since the sixth grade. My previous projects have been in the fields of engineering, chemistry, health sciences and computer sciences. As a member of my schools Debate Team, my partner and I placed second in Provincials and attended the National Conference in Halifax two years ago. I enjoy playing the flute in my High School Concert Band. I am looking forward to an exciting week at the Canada Wide Science Fair.

### Awards

### Value

Excellence Award - Senior - Silver Medal Sponsor: Youth Science Canada	\$700
Dalhousie University Faculty of Science Entrance Scholarship Senior Silver Medallist - \$2500 Entrance Scholarship Sponsor: Dalhousie University, Faculty of Science	\$2 500
UBC Science (Vancouver) Entrance Award Senior Silver Medallist - \$2000 Entrance Scholarship Sponsor: The University of British Columbia (Vancouver)	\$2 000
The University of Western Ontario Scholarship Silver Medallist - \$2000 Entrance Scholarship Sponsor: University of Western Ontario	\$2 000
University of Ottawa Entrance Scholarship Senior Silver Medallist - \$2000 Entrance Scholarship Sponsor: University of Ottawa	\$2 000
<b>Total</b>	<b>\$9 200</b>