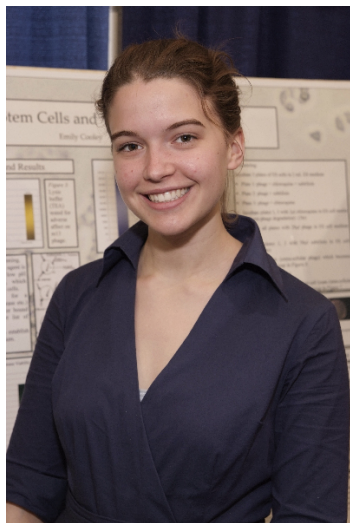


# CWSF 2007 - Truro, Nova Scotia



## Emily Cooley

### Embryonic Stem Cells and Viral Internalization

**Division:** Biotechnology / None

**Category:** Senior

**Region:** Calgary Youth

**City:** Calgary, AB

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

**Abstract:** To determine the specificity of ligand internalization in murine embryonic stem cells, a random M13 bacteriophage library was incubated with ES cells. Internalized phage were isolated through biopanning using subtilisin (a novel approach) to release surface bound phage. 5000 times less phage were found in the cell lysate than in the cell medium. Determining ligand specificity could lead to therapeutics for targeting cancer-causing stem cells.

#### Biography

For the past three years I have been dedicated to pursuing my own research initiatives at the University of Calgary and am now completing my grade 12 year at Queen Elizabeth high school in Calgary, Alberta. I have participated for the past two years not only in the Canada Wide Science Fair but also in the Sanofi-Aventis Biotech Challenge as well as competitively engaging in high school debate and speech at the provincial and, more recently, national level. I am involved in the Calgary volunteer community and am a member of the Youth Volunteer Corps as well as the Calgary Youth Foundation. I am looking forward to attending the University of British Columbia (Vancouver campus) in the fall, however, I have yet to decide upon a specific program of study. I hope to spend the upcoming summer traveling as much as possible to gain a better understanding and appreciation of the world around me as well as taking a year of study abroad.

#### Awards

#### Value

Merck Frosst Award Sponsor: Merck Frosst Canada	\$1 000
Dalhousie University Faculty of Science Entrance Scholarship Senior Gold Medallist - \$4000 Entrance Scholarship Sponsor: Dalhousie University, Faculty of Science	\$4 000
UBC Science (Vancouver) Entrance Award Senior Gold Medallist - \$4000 Entrance Scholarship Sponsor: The University of British Columbia (Vancouver)	\$4 000
The University of Western Ontario Scholarship Gold Medallist - \$2000 Entrance Scholarship Sponsor: University of Western Ontario	\$2 000
Gold Medal - Biotechnology & Pharmaceutical Sciences - Senior Sponsor: Rx&D Health Research Foundation	\$1 500
EnCana Platinum Award - Best Senior Project Sponsor: Encana Corporation	\$5 000
EnCana Best in Fair Award Sponsor: Encana Corporation	\$10 000
<b>Total</b>	<b>\$27 500</b>