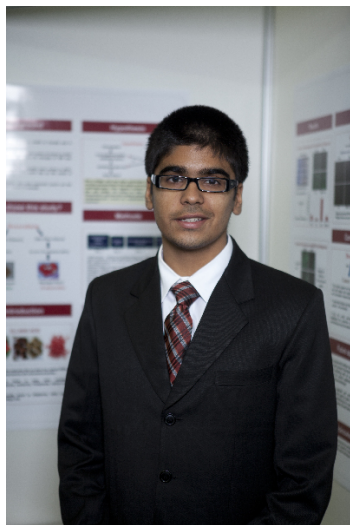


# CWSF 2013 - Lethbridge, Alberta



## Abhinav Dhingra

### Ellagic Acid Selectively Inhibits Cardiotoxic Effects of Chemotherapy Drug

**Challenge:** Health

**Category:** Intermediate

**Region:** Manitoba Schools Science Symposium

**City:** Winnipeg, MB

**School:** Fort Richmond Collegiate

**Abstract:** Cancer is responsible for 30% of all deaths in Canada. Patients are given chemotherapy treatment to kill cancer cells. Doxorubicin is a very effective chemotherapy drug but is associated with significant cardiovascular complications. Ellagic acid, a compound with antioxidant properties is found in berries and nuts. In the present study; we investigated whether ellagic acid would mitigate the cytotoxic effects of Doxorubicin in cardiac cells.

#### Biography

I am grade 10 student in Fort Richmond Collegiate, Winnipeg. This is my second year of participation in Manitoba School Science Symposium. My hobbies are watching scientific documentaries playing basketball. I want to become a cardiologist. I find heart as a very dynamic organ that works non-stop to pump blood to the body. Unlike many other cells cardiomyocytes do not divide. Cardiomyocytes are very sensitive to hypoxia induced free radicals and they die. Berries are rich source of antioxidant ellagic acid. In my last year's project I investigated whether ellagic acid can prevent hypoxia induced cardiomyocyte death. Results were very encouraging and showed protective effect of ellagic acid and I got silver medal. Furthermore, literature suggests that anticancer drug Doxorubicin causes free radical production and cardiotoxicity. Based on the outcome of my last year's project currently I wanted to test the hypothesis; whether Ellagic acid can prevent Doxorubicin induced cardiotoxicity. My studies revealed that ellagic acid selectively protects cardiomyocytes from Doxorubicin induced cell death but not the cancer cells. I won overall best poster award (intermediate level), gold medal and special award from Functional Foods, University of Manitoba. I am very excited about my rese...

#### Awards

#### Value

Excellence Award - Intermediate - Silver Medal Sponsor: Youth Science Canada	\$300
Western University Scholarship Silver Medallist - \$2000 Entrance Scholarship Sponsor: Western University	\$2 000
<b>Total</b>	<b>\$2 300</b>