

British Columbia

### **Mopping up dead cells key to boosting cancer, arthritis treatments**

A Vancouver high school student has discovered that switching on a specific enzyme offers a promising new way to mop up dead cells that play a significant role in cancer, arthritis and other inflammatory diseases.

While the human immune system can kill diseased cells, its inability to clean up dead cells is a serious weakness and a major obstacle in many cancer and other treatment programs, says Janny Xe, 17. That inability, she says, “is partly responsible for many of the tumours' vicious deeds,” including recurrence.

Janny's investigation is thought to be the first to demonstrate that stimulating a certain enzyme (AMPK) boosts the body's ability to mop up dead cells and reduce inflammation. More than 200 hours of lab time and enormous amount support from mentors at Simon Fraser University and University of British Columbia medical research labs went into the study.

She had great praise for everyone who guided her work, in particular mentor Edgar Young of SFU, who helped her learn invaluable lab techniques and provided the project resources.

“What I've enjoyed most about the competition the amazing friendships, the thrill of finding out something ... and meeting all these people who are really passionate about research, science, and community service,” she says.

Jenny concludes: “When I started doing the SABC BioTalent challenge last year, I had no idea that macrophages and plastics can tell me so much about myself.”