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## U of L scientists develop new medical cannabis cultivars that show promise in combatting COVID-19 virus

In partnership with the University of Lethbridge, Pathway RX, a research company focused on developing custom cannabis therapies, and Swysh, a company focused on cannabinoid research and development, have found that specific *Cannabis sativa* extracts show promise as an additional treatment for COVID-19.



“While our most successful extracts require further validation in a large-scale analysis and an animal model, our study is crucial for the future analysis of the effects of medical cannabis on COVID-19,” say Drs. Igor (CEO of Pathway RX) and Olga Kovalchuk, both U of L biology professors.

The Kovalchuks and a team of researchers recently submitted a paper about their research study on the effects of medical cannabis on COVID-19 to a journal for publication and their manuscript has been uploaded to [Preprints](#). This means the research has not yet been peer reviewed or been published in a journal.

The study focused on how certain cannabis extracts affected ACE2 and TMPRSS2 proteins. These proteins are imbedded into the cellular membrane and represent a key gateway for the COVID-19 virus to enter host cells. The researchers used *C. sativa* extracts to modulate the levels of these enzymes. Initial data suggest that 13 *C. sativa* extracts high in the anti-inflammatory CBD (cannabinoid cannabidiol) can modulate ACE2 expression in COVID-19 target tissues and down-regulate TMPRSS2. The results demonstrate that these high-CBD *C. sativa* lines have potential to become a useful and safe addition to COVID-19 treatment. They could be used to develop preventative treatments in the form of a mouthwash or throat gargle product for clinical and home use.

“Given the current dire and rapidly developing epidemiological situation, every possible therapeutic opportunity and avenue needs to be considered,” says Kovalchuk. “Our research team is actively pursuing partnerships to conduct clinical trials.”

Through Pathway RX, Kovalchuk has generated more than 1,000 C. sativa hybrids and tested them on human tissues and cells to learn about their biological activity. These varieties have been patented and are currently licensed to Sundial Growers, an Alberta-based licensed cannabis producer and partner of Pathway RX.

This news release can be found online at [medical cannabis and COVID-19](#).

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