

[Home](https://www.healthing.ca/) / [News](https://www.healthing.ca/category/news)

U of T lab results finds coating on mask 'deactivates' 99% of SARS-CoV-2 virus

Jenny Yuen, Toronto Sun 1 hour ago



An antimicrobial coating developed by Quebec company I3 BioMedical Inc. can "deactivate" 99% of SARS-CoV-2 virus, which causes COVID-19. Lab tests were conducted by University of Toronto scientists over several months. SUPPLIED / I3 BIOMEDICAL INC.

A University of Toronto professor says lab tests show that the antimicrobial coating developed by a Canadian surgical mask manufacturing company can "deactivate" more than 99% of the SARS-CoV-2 virus that causes COVID-19, within a half-hour period.

The discovery, led by professor Scott Gray-Owen at the university's department of molecular genetics at the Faculty of Medicine, was made last week after scientists tested the TrioMed Active Mask coating developed by Quebec's I3 BioMedical Inc. with patient samples of the virus supplied by Sunnybrook Hospital since mid-March in its high-tech containment level three (CL3) lab.

"The coating was known to kill bacteria, but their breakthrough was they figured out a way to directly bring the chemicals to the surface of the mask material," said Gray-Owen in an interview Thursday.

"It's not on the inside of the mask, it's on the outside. It's bound in a way that doesn't leech off your skin. They've done work before to show that the surface of this mask could kill various bacteria, including influenza. Public Health Agency of Canada wanted them to confirm this could deactivate CoV-2 virus."

Gray-Owen said they applied the virus to the mask with the coating and then another sample without the coating.

"If we apply the virus to the mask with the coating, we're not able to recover any infectious virus," he said. "We use a monkey kidney cancer cell. When a single virus particle of SARS CoV-2 gets into one of these kidney cells, it replicates quickly and kills the cell. We left it for 10 days and didn't see any signs of the virus."

Gray-Owen said the coated mask can protect the mask-wearer in several ways – if the mask-wear is infected with the CoV-2 virus and sneezes, those droplets would get caught in the coating and deactivated on their way out, so they don't infect others around them.

"But also, if someone was beside me and they were infected and they talked to me and it got on the outside of my mask, or if my hands were contaminated and I touch my mask, then it should deactivate that. It should in theory, have a protective effect."

The coated surgical masks could only be for one-time use and not washable.



An antimicrobial coating developed by Quebec company I3 BioMedical Inc. can "deactivate" 99% of SARS-CoV-2 virus, which causes COVID-19. Lab tests were conducted by University of Toronto scientists, including Professor Scott Gray-Owen (pictured), over several months. SUPPLIED / UNIVERSITY OF TORONTO

The professor said the deactivation of the virus takes place in minutes, but they were still doing more research on exact timing — less than a half-hour is safe to say, Gray-Owen gathers.

"There are a large number of groups that are testing surface coating — on door handles, table surfaces — as far as I know, this is the first demonstration done on a soft material coating that can deactivate the virus," he said.

"I would say we are facing a PPE shortage. In a high-containment research lab, we have a real problem getting N95 masks," he said. "There is a real panic that if there's a second wave, there could be more of a shortage. We can have an appreciation that we do have the capacity to make these masks in Canada."

Pierre-Jean Messier, the executive chairperson for I3 BioMedical Inc. said the masks with the coating have already been supplied to healthcare workers across Canada and are also available for the public to buy at drugstores.

He said he likely wouldn't consider adapting the microbial coating technology to cloth face masks — what public health professionals have recommended members of the public wear — because cloth masks don't reach a high standard of quality they require for the coating to work.

"About 100 years ago, we had the Spanish Flu and the basic protection those days was the cloth mask," he said. "Going back 100 years tends to defeat the purpose of protection. The devices, while they look alike, are completely different and ours have to meet different standards of testing, which are very rigorous."

jyuen@postmedia.com (mailto:jyuen@postmedia.com)

RELATED STORIES

Mandatory masks a major adjustment for senior population...

Many municipalities in the province are making mask-wearing mandatory but for many seniors it is...

The Toronto Sun 1 hour ago [News...](#)



(<https://www.healthing.ca/news/mandatory-masks-a-major-adjustment-for-senior-population>)

COVID-19 leading to less sex, more gender-based violence: UBC research...

"The myth that needs debunking is that, because people are home, everyone's having sex," said UBC...

Vancouver Sun (http... 1 hour ago [News...](#))



(<https://www.healthing.ca/news/covid-19-leading-to-less-sex-more-gender-based-violence-ubc-researcher>)

COVID-19: Mask are safe and should be worn on transit, says Dr. Henry...

There were 21 new cases of COVID-19 reported in British Columbia between noon Wednesday and noo...

Vancouver Sun (ht... 25 mins ago [News...](#))



(<https://www.healthing.ca/news/covid-19-mask-are-safe-and-should-be-worn-on-transit-says-dr-henry>)

Alberta reports 120 new COVID-19 cases – the highest in over two months...

Social gatherings remain the most significant area of risk for new infections, said Hinshaw

Calgary Herald 25 mins ago [News...](#)



(<https://www.healthing.ca/news/alberta-reports-120-new-covid-19-cases-the-highest-in-over-two-months>)

'This stuff is real': COVID-19 symptoms can linger for months, long haulers say...

For long haulers, there appears plenty to complain about. And they're wondering, when will it end?

Sharon Kirkey, Natio... 23 hours ago [News...](#)



(<https://www.healthing.ca/news/this-stuff-is-real-covid-19-symptoms-can-linger-for-months-long-haulers-say>)



Section

[My Health A-Z \(https://www.healthing.ca/alphabetical-search\)](https://www.healthing.ca/alphabetical-search)
[COVID-19 \(https://www.healthing.ca/category/diseases-and-conditions/coronavirus\)](https://www.healthing.ca/category/diseases-and-conditions/coronavirus)
[Newsletter \(http://view.ceros.com/postmedia-network/healthing-signup/p/1\)](http://view.ceros.com/postmedia-network/healthing-signup/p/1)
[Body & Life \(https://www.healthing.ca/category/wellness\)](https://www.healthing.ca/category/wellness)
[News \(https://www.healthing.ca/category/news\)](https://www.healthing.ca/category/news)
[Science \(https://www.healthing.ca/category/science\)](https://www.healthing.ca/category/science)

About

[Contact us \(https://www.healthing.ca/contact\)](https://www.healthing.ca/contact)
[Copyright & Permissions \(https://www.healthing.ca/copyright-and-permissions\)](https://www.healthing.ca/copyright-and-permissions)
[Terms \(https://pages.postmedia.com/termsofservice/\)](https://pages.postmedia.com/termsofservice/)
[Privacy \(https://pages.postmedia.com/privacy-statement/\)](https://pages.postmedia.com/privacy-statement/)
[Advertise with us \(http://business.healthing.ca/\)](http://business.healthing.ca/)

DISCLAIMER The information provided herein should not be used during any medical emergency or for the diagnosis or treatment of any medical condition. A licensed physician should be consulted for diagnosis and treatment of any and all medical conditions. Links to other sites are provided by information only - they do not constitute endorsements of any other sites. Recommended treatments may not be applicable, available, or permissible in Canada or other jurisdictions



365 Bloor Street East, Toronto, Ontario, M4W 3L4

Healthing Newsletter

Your Email

[Sign up](#)

