



COVID-19 IMMUNITY
TASK FORCE

Research Roundup

Your weekly review on COVID-related research



International Research Review

Certain viral variants may be less susceptible to a COVID vaccine and treatments

Of all the mutations present in recent emerging variants, three were linked with the ability of the variants to evade neutralization (K417N, E484K, and N501Y). These changes correspond to the portion of the spike protein that SARS-CoV-2 uses to adhere to its host cell receptor, and their presence makes this binding stronger. The mutated protein is also able to evade monoclonal antibodies which are used as therapy.

[Read Summary](#)

Can the COVID-19 vaccine supply be stretched to provide a broader public health impact?

New articles in The Lancet support the notion that a longer dosing interval between vaccines can lead to overall better outcomes. However, additional consideration is needed with the rise in SARS-CoV-2 variants emerging globally. Higher levels of neutralizing antibodies elicited by the full course of two vaccine doses may be essential for conferring protection against some of the variants.

[Read Summary](#)

Is there a threshold for protective immunity?

Elon Musk's SpaceX does not just send red convertibles into space, they are also now a cohort for SARS-CoV-2 immunity. Researchers measured antibody levels at various time points to ascertain the capacity of these antibodies to stop SARS-CoV-2 and the role of T cell immunity. Data presented in this study published in Nature Communications points to a threshold that might exist in the level of antibodies produced by an infection, above which an individual is likely protected.

[Read Summary](#)



Spotlight on CITF-funded Research

New commercial neutralization assay has modest value added compared to classical alternatives

A study published in pre-print, designed and executed by CITF scientific advisors, Dr. Jesse Papenburg, Dr. Matthew Cheng and Dr. Cedric Yansouni, evaluated multiple assays that detect antibodies capable of neutralizing SARS-CoV-2. They compared classic neutralization assays to surrogate neutralization assays that measure binding between spike's receptor binding domain (RBD) and the cellular receptor and immunoassays that measure antibodies against RBD.

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A novel high-throughput method to screen

convalescent plasma

Dr. Andrés Finzi from the Université de Montréal and Dr. Renée Bazin from Héma-Québec and their teams recently describe a novel high-throughput method to track levels of antibodies made against SARS-CoV-2 spike protein in the plasma of donors that recovered from COVID-19 in a recent issue of Transfusion.

[Read More](#)

New studies look at COVID-19 antibodies among Canadian correctional populations

The CITF is supporting four studies of correctional service employees and individuals incarcerated in Canadian correctional facilities. The studies are determining how many of these individuals have antibodies to SARS-CoV-2 and involve several federal institutions across the country and provincial prisons in British Columbia, Saskatchewan, and Quebec.

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New study will examine if inequities are contributing to an increased risk of COVID-19 within the Black Canadian population

Data from multiple countries including the US, UK and Canada indicate a disproportionate number of individuals of African ancestry are contracting SARS-CoV-2 and afflicted with more severe COVID-19 than people of other races. The CITF is supporting a study investigating how many people in Black Canadian communities have had SARS-CoV-2 and the risk factors associated with both contracting the infection and having poor outcomes, including hospitalization and death.

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Study examines occupational risks associated with SARS-CoV-2 infection rates, transmission

risk, and immunity in dental schools across Canada

Dental and dental hygiene students and staff remain among the few groups on-site nearly daily at universities and colleges across Canada. Their continued presence on campus and the nature of the dental work itself increases their risk of exposure to SARS-CoV-2. The CITF is supporting a pan-Canadian study investigating SARS-CoV-2 infection rates, transmission risks, and immune system responses of those working in dental clinics, laboratories, and offices in universities.

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Request for Applications

44 teams invited to submit application by March 15th

In a fast-tracked process, Canada's Vaccine Surveillance Reference Group, in partnership with the CITF, and with the support of the Public Health Agency of Canada, has invited the Canadian research community to apply for funding to assess the safety and effectiveness of current and future SARS-CoV-2 vaccines deployed in Canada. All 44 teams invited to submit a full application have been notified. A total of 120 people participated in our February 25th workshop which outlined gaps that the RFA call is trying to fill, and reviewed how to complete the proposal, budget documentation and data sharing. Full proposals are due by March 15th.

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