COVID-19 IMMUNITY TASK FORCE

Research Roundup

Your weekly review on COVID-related research

International Research Review

Modelling uncertain times: what are the epidemiological and viral variant outcomes of alternative vaccination schemes?

This UK study modelled different scenarios and found that a single dose of a COVID-19 vaccine that generates a strong immune response, together with a delayed second dose, is an effective approach to curbing the spread of SARS-Cov-2. However, if one-dose vaccinal immunity is weak, the outcome could be less-than desirable.

Read Summary

Quantifying antibodies made in response to SARS-CoV-2 vaccination: comparable outcomes from five commercial assays

During the current COVID-19 immunization era, correlates of protection are central to determine vaccine efficacy. Assays measuring antibodies that recognize the spike protein can be used for this purpose, as long as they yield results comparable to the assays measuring the neutralizing capacity

of the sample. Five assays that quantify this were recently evaluated side-by-side and their results, in a pre-print, were comparable.

Read Summary

Novel technology to detect T cell response in COVID-19 infections

The U.S. Food and Drug Administration has recently approved the use of a novel technology called a "T-Detect" COVID Test, developed by Adaptive Biotechnologies, to determine if a person has had a recent or prior infection with SARS-CoV-2. This test measures T cells, rather than antibodies, which appear to last longer than antibodies and are therefore an important marker when studying immune responses.

Read Summary

Spotlight on CITF-funded Research

Rapid point-of-care tests to detect SARS-CoV-2 antibodies are promising, but field results are not ideal

CITF Leadership Group member Dr. Mel Krajden and Mohammad Morshed who receives support from the CITF for another project, along with their team at the British Columbia Centre for Disease Control Public Health Laboratory, recently evaluated the sensitivity of rapid tests to detect antibodies to SARS-CoV-2 in blood samples under different testing settings. The team concluded that while in the laboratory using venous blood samples these tests were very sensitive (almost 100%) compared to other commercial tests, their sensitivity dramatically dropped when testing was performed using finger prick collected samples.

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Tracking and mapping new mutations of SARS-CoV-2 across the globe

CITF-funded researcher Dr. Marc-André Langlois and his team at University of Ottawa analyzed mutations in SARS-CoV-2 reported worldwide from December 2019 to December 2020. They studied the impact on virus biology, therapeutics and vaccine effectiveness. In this pre-print, they offer an integrative view of the emergence, disappearance, and sequence integration of successful mutations that constitute the latest circulating SARS-CoV-2 variants and their potential impact on neutralizing antibody treatments and vaccines.

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New study in Quebec long-term care facilities to investigate the science behind why so many residents had severe cases of COVID-19

Across Canada, long-term care facilities have accounted for a disproportionate number of COVID-19 deaths. The study, supported by the CITF, brings together immunological, biochemical, and psychosocial expertise to identify key factors that determine severe COVID-19 symptoms and complications in the elderly.

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