COVID-19 IMMUNITY TASK FORCE

Research Roundup

Your weekly review on COVID-related research

International Research Review

People over 65 are more prone to reinfection than young adults

Seventy percent of the entire population of Denmark (4 million people) was tested for SARS-CoV-2. Researchers from the University of Copenhagen followed over half a million of these individuals during the first and second waves of the pandemic and concluded that people over the age of 65 were more prone to reinfection. Intriguingly, in a separate study, young adults were shown to exhibit lower levels of SARS-CoV-2 antibodies than older adults, and even children.

Read Summary

Exposure to SARS-CoV-2 generates T cell immunity in the absence of detectable infection

Since the start of the COVID-19 pandemic, over 50 million people worldwide have been infected by the SARS-CoV-2 virus. Several studies have demonstrated that both humoral and cell-mediated immune responses are primed in response to this virus, however, the specific correlates of protection remain elusive. While a lot of focus has been put on the

importance of humoral immunity, a new study by Wang et al. published in *Nature Communications* further strengthens the notion that memory T cells may play a critical role in mediating protection against SARS-CoV-2 infection.

Read Summary

Spotlight on CITF-funded Research

Using a glowing SARS-CoV-2 virus and mice to explain how antibodies protect from infection and severe disease

An international multisite research collaboration, including CITF-funded researcher Dr. Andrés Finzi from the Université de Montréal, used genetically modified mice that mimic COVID-19 in humans to study how antibodies from people who have recovered from COVID-19 could prevent severe disease in other people. In this preprint, the authors concluded that these antibodies were effective in not only blocking SARS-CoV-2 infection, but also in allowing mice infected with a lethal dose of the virus to fully recover.

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Immune cell analysis reveals that the amount of SARS-CoV-2 in the blood is a strong predictor of mortality

In a recent pre-print, CITF-funded researchers Drs. Daniel Kaufmann, Andrés Finzi and Nicolas Chomont from the Université de Montréal and their collaborators, used blood samples from hospitalized COVID-19 patients to study the virus and various mechanisms of immunity. They found that the

amount of virus in the blood can help identify patients at risk of developing severe COVID-19 and death.

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Weaker antibody response to first COVID-19 vaccine dose found in long-term care residents

New data stemming from a study in British Columbia evaluating the strength and magnitude of antibody responses following one dose of the Pfizer-BioNTech vaccine indicate that older adults generate a much weaker antibody response to one vaccine dose compared to younger adults. These findings, in preprint, hail from a CITF-funded project led by Dr. Marc Romney at the University of British Columbia, and Drs. Zabrina Brumme (BC Centre for Excellence in HIV/AIDS) and Mark Brockman (Simon Fraser University).

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