

## Archived Editions (COVID-19 Genomics and Precision Public Health Weekly Update)

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### COVID-19 Genomics and Precision Public Health Weekly Update Content

- Pathogen and Human Genomics Studies
- Non-Genomics Precision Health Studies
- News, Reviews and Commentaries

#### Pathogen and Human Genomics Studies

- Clinical Course and Molecular Viral Shedding Among Asymptomatic and Symptomatic Patients With SARS-CoV-2 Infection in a Community Treatment Center in the Republic of Korea (/PHGKB/phgHome.action?action=forward&dbsource=covUpdate&id=39)

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In this cohort study of 303 patients with SARS-CoV-2 infection isolated in a community treatment center in Korea, 110 (36.3%) were asymptomatic at the time of isolation and 21 (19.1%) developed symptoms during isolation. The threshold values of reverse transcription–polymerase chain reaction in asymptomatic patients were similar to those in symptomatic patients.

- Genetic variability in the expression of the SARS-CoV-2 host cell entry factors across populations (/PHGKB/phgHome.action?action=forward&dbsource=covUpdate&id=40)

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We devised a quantitative measure to estimate genetic determinants of ACE2 and TMPRSS2 expression and applied this measure to >2500 individuals. Our data show significant variability in genetic determinants of expression among individuals and between populations, and indicate a predisposition for lower expression levels in African populations.

- Genome-wide bioinformatic analyses predict key host and viral factors in SARS-CoV-2 pathogenesis (/PHGKB/phgHome.action?action=forward&dbsource=covUpdate&id=42)

MG Ferrarini et al, BIORXIV, August 5, 2020

- Impaired type I interferon activity and inflammatory responses in severe COVID-19 patients. (/PHGKB/phgHome.action?action=forward&dbsource=covUpdate&id=48)

Hadjadj Jérôme et al. Science (New York, N.Y.) 2020 Aug (6504) 718-724

The results of this trio of studies suggest that the location, timing, and duration of interferon exposure are critical parameters underlying the success or failure of therapeutics for viral respiratory infections.

- The effectiveness of tests to detect the presence of SARS-CoV-2 virus, and antibodies to SARS-CoV-2, to inform COVID-19 diagnosis: a rapid systematic review (/PHGKB/phgHome.action?action=forward&dbsource=covUpdate&id=57)

D Jarrom et al, MEDRXIV, August 11, 2020

Evidence is rapidly emerging on the effectiveness of tests for COVID-19 diagnosis and management, but important uncertainties about their effectiveness and most appropriate application remain. Estimates of diagnostic accuracy should be interpreted bearing in mind the absence of a definitive reference standard to diagnose or rule out COVID-19 infection.

- Phase 1/2 study of COVID-19 RNA vaccine BNT162b1 in adults (/PHGKB/phgHome.action?action=forward&dbsource=covUpdate&id=58)

MJ Mulligan et al, Nature, August 12, 2020

We report the available safety, tolerability, and immunogenicity data from an ongoing placebo-controlled, observer-blinded dose escalation study among 45 healthy adults, 18 to 55 years of age, randomized to receive 2 doses, separated by 21 days, of 10 µg, 30 µg, or 100 µg of BNT162b1, a lipid nanoparticle-formulated, nucleoside-modified mRNA vaccine.

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