Vaccines Against COVID-19

Kristen Jill Abboud

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More than 241 million doses have been administered in 103 countries oral COVID-19 vaccine.

characterize immune responses to antigens. His presentation will focus on Vaxart's

Dr. Sean Tucker, the Chief Scientific Officer and Vice President for Research at

agreement is expected to help substantially increase vaccine supply, and given it is

Organization. Although supply of the vaccine will be limited initially, the U.S.

country and was responsible for 95% of the infections that occurred during the

overall, even against the B.1.351 variant that has become predominant in the

against HIV.

in Janssen's licensed Ebola vaccine and is being tested in ongoing efficacy trials

serotype 26) vector to deliver the genetic material for the SARS-CoV-2 Spike protein

Johnson & Johnson's COVID vaccine uses an inactivated cold virus (adenovirus

vaccination. Notably, this single-dose vaccine remains stable with standard

deployment for both Moderna's and Pfizer/BioNTech's vaccines that require colder

vaccines are currently authorized.

This vaccine, developed by Janssen Pharmaceuticals, Johnson & Johnson's vaccine

hasn't been successful yet. Is developing a universal coronavirus vaccine an

There has been an ongoing effort to develop universal vaccines, but that

obstacle to universal influenza vaccines, and it isn't clear yet whether it will pose a

universal coronavirus vaccine should be an easier target, as coronaviruses are less

whereas our seasonal flu vaccines are at best 60% effective, and often less effective

There is also the challenge of neutralization. Although some antibodies may neutralize against SARS-CoV-1 and SARS-CoV-2, these are likely just the tip of the iceberg.

Neutralizing antibodies against coronaviruses, similarly to what has been done in the HIV

Is it also possible to work in reverse and start by identifying broadly neutralizing

It is worth noting that, if we can target broadly neutralizing antibodies, we can use those to guide vaccine development and design.

Incorporating AI into Vaccine Design

What are those tools?