



## Reference of the Week

- Joyce MG. Efficacy of a Broadly Neutralizing SARS-CoV-2 Ferritin Nanoparticle Vaccine in Nonhuman Primates. bioRxiv preprint. 03.25.2021. [recruiting for a phase 1 trial, see ClinicalTrials.gov].  
<https://www.biorxiv.org/content/10.1101/2021.03.24.436523v1> pdf  
**Premise/Methods:** **1.** The emergence of SARS-CoV-2 variants and reduction in efficacy of current EUA approved vaccines forebodes a future when a variant escapes current vaccine protection altogether. **2.** There is a need for a vaccine platform that generates immunogenicity against multiple emerging SARS-CoV-2 strains. **3.** Ferritin is a naturally occurring, ubiquitous, iron-carrying protein conducive to conjugation and antigen display of SARS-CoV-2 Spike (S) protein. **4.** This study assessed the potency of a ferritin nanoparticle vaccine (SpFN) against SARS-CoV-2 wild type, B.1.1.7 and B.1.351 variants, and SARS-CoV-1. **Results:** **1.** This study demonstrated that SpFN elicited antibodies that neutralize SARS-CoV-2 ten times more potently than most vaccines and that neutralizing activity is either higher or equivalent against two major variants of concern (B.1.1.7, B.1.351). **2.** SpFN also demonstrated neutralization capacity of SARS-CoV-1, a separate species that has 26% and 36% sequence divergence from SARS-CoV-2 in the S protein and S1 subunit, respectively. **3.** This study also found that SARS-CoV-2 antibody responses in animals vaccinated with SpFN were significantly higher than those generated by high doses of leading genetic vaccines and that differential increased when SpFN was compared to recombinant adenovirus vector vaccines. **4.** The collective immune response elicited by SpFN translated into a robust and rapid reduction in replicating virus in the upper and lower airways of animals and resultant prevention of pulmonary pathology.  
*SpFN platform may be the answer to the emergence of viral variants and is currently being assessed against influenza (see <https://clinicaltrials.gov/ct2/show/NCT03186781>) and now SARS-CoV-2.*

SEE THE ARTICLE CABINET ON THE S: DRIVE, "COVID-19 ARTICLE RESOURCE CABINET" FOR CHILDREN'S FULL COLLECTION