Review of: "Mucosal Immunization of Cynomolgus Macaques with Adenoviral Vector Vaccine Elicits Neutralizing Nasal and Serum Antibody to Several SARS-CoV-2 Variants"

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Potential competing interests: The author(s) declared that no potential competing interests exist.

The authors described intranasal vaccination with adenovirus vectors carrying SARS-CoV-2 S genes (Wuhan and beta) and/or N gene. They found following points.

1. They tried immunization with ED88 vaccine that contained S and N genes, but ED90 with only S gene induced better IgG and IgA responses in sera and nasal samples than did ED88.
2. Nasal vaccination induced better Ig responses than intramuscular vaccination.
3. ED90 (Wuhan) vaccination induced Ig against alpha, beta, gamma and delta S protein, whereas ED94 (beta) vaccination induced better Ig responses against beta and gamma than those against Wuhan, alpha, and delta S proteins.

The followings should be answered.

1. It is unclear whether formulation of the vaccines in the present study is same as that in the clinical trials in refs 14 and 15.
2. The study of prime with ED90 and boost with ED94 should be added.
3. Challenge experiments with recent VOCs are required.
4. T-lymphocyte responses against S and N proteins should be examined since addition of N protein into the vaccine means addition of T-cell epitopes in the vaccines.
5. Since crossreactivity of ED90 and ED94 was different, antigenic comparison of S proteins between Wuhan and VOCs should discussed in details.