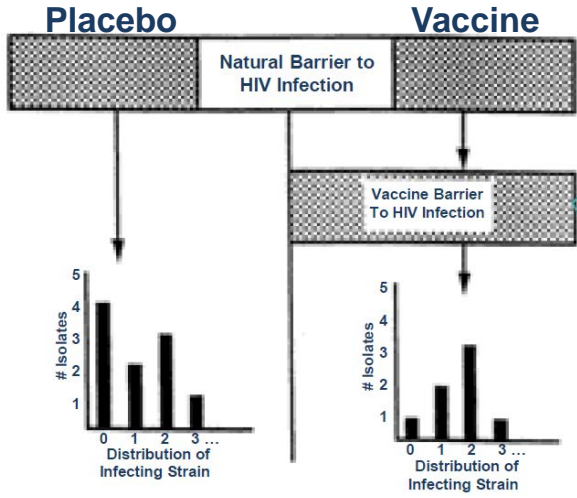
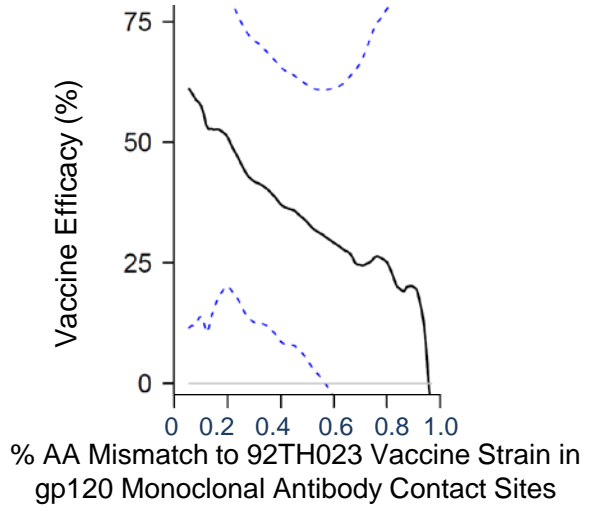


# Sieve Analysis: Based on a Randomized Trial, Assess How Preventive Vaccine Efficacy Depends on Features of the Pathogen

Circulating HIV-1 Strains 1, 2, 3, ...

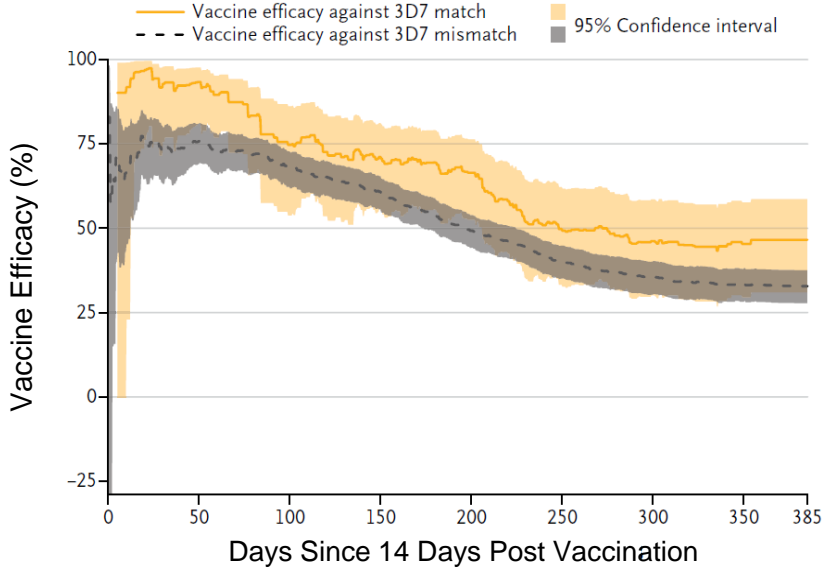


**HIV-1 Vaccine Sieve Effects [Nine Trials, e.g. RV144]**  
(e.g., Rolland, Edlefsen et al., 2012, Nature; Gilbert et al, 2015, JRSS-C)



SARS-CoV-2 genetic evolution/variability  
nextstrain.org/ncov  
Trevor Bedford et al.

**Malaria Vaccine Sieve Effects [MAL-066]**  
(Neafsey et al., 2015, NEJM; Benkeser et al., 2019)



**Dengue Vaccine Sieve Effects Serotype 4 [CYD14]**  
(Juraska et al., 2018, PNAS)  
Number of Mismatched Residues

