

**Table S1.** Cutoff values of the SARS-CoV-2 specific bead-based multiplex assay.

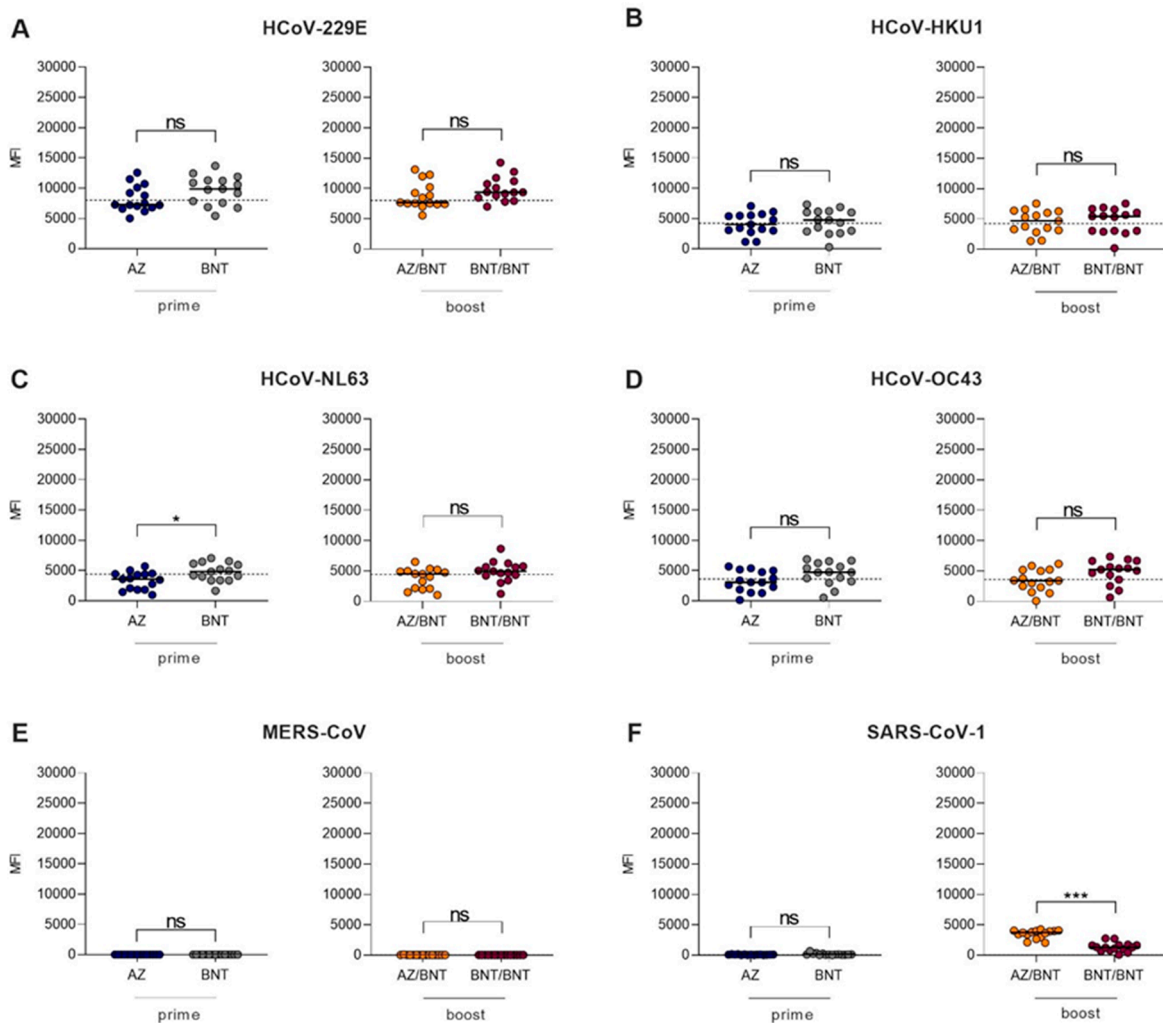
Target	Cutoff (MFI)
SARS-CoV-2 Full Spike	6800
SARS-CoV-2 Spike S1	2700
SARS-CoV-2 Spike RBD	3800
SARS-CoV-2 Spike S2	3200
SARS-CoV-2 Nucleocapsid Protein	5900
HCoV-229E Spike S1	8012
HCoV-HKU1 Spike S1	4235
HCoV-NL63 Spike S1	4407
HCoV-OC43 Spike S1	3599
MERS-CoV Spike S1	21
SARS-CoV-1 Spike S1	41

SARS, severe acute respiratory syndrome; MERS, middle east acute respiratory syndrome; MFI, mean fluorescence intensity

**Table S2.** Participants Baseline Characteristics for analysis against different SARS-CoV-2 target antigens.

	AZ/BNT Heterol Boost	BNT/BNT Homol Boost	P-value
N	15	15	
Age, median (IQR)	33 (27 – 39)	42 (30 – 56)	0.07
Female, N (%)	7 (47)	7 (47)	>0.99

AZ=AstraZeneca; BNT=BioNTech, N=number



**Figure S1.** Antibodies against the S1 spike protein of the 4 community coronaviruses, MERS-CoV, and SARS-CoV-1 after AZ and BNT prime vaccination and after AZ/BNT heterologous and BNT/BNT homologous boost vaccination. IgG antibodies against the 4 community coronaviruses, MERS-CoV, and SARS-CoV-1 in health care workers after AZ and BNT prime vaccination and after AZ/BNT heterologous and BNT/BNT homologous boost vaccination. Detection of antibodies against HCoV-229E (A), HCoV-HKU1 (B), HCoV-NL63 (C), HCoV-OC43 (D), MERS-CoV (E), and SARS-CoV-1 (F) in health care workers after AZ and BNT prime vaccination and after AZ/BNT heterologous and BNT/BNT homologous boost vaccination. The x-axis represents the vaccination pattern, and the y-axis the mean fluorescence intensity (MFI) value of the reactivity. The dashed black line represents the cutoff for detection for each target, respectively.



### Calculation of inhibition via optical density

Optical density at 450 nm was measured in each well and the percent (%) inhibition was calculated as follows:

$$\text{Inhibition} = \left( 1 - \left( \frac{\text{OD value of Sample}}{\text{OD value of Negative Control}} \right) \right) \times 100\%$$

### Side effects questionnaire

#### 1. Side effects after 1st vaccination:

- ☐ yes ☐ no

#### 2. If yes, please mark the appropriate side effects you had:

- ☐ local events (such as pain at injection site, redness, swelling)  
☐ fever ☐ fatigue ☐ headache ☐ chills  
☐ vomiting ☐ diarrhea ☐ muscle pain ☐ joint pain  
☐ swollen lymph nodes ☐ others, such as \_\_\_\_\_

#### 3. In response to above mentioned side-effects, I took the following medication

- ☐ NSAID (i.e. Ibuprofen)  
☐ Paracetamol  
☐ Metamizol (i.e. Novalgin)  
☐ Aspirin  
☐ others, such as \_\_\_\_\_

#### 1. Side effects after 2nd vaccination:

- ☐ yes ☐ no

#### 2. If yes, please mark the appropriate side effects you had:

- ☐ local events (such as pain at injection site, redness, swelling)  
☐ fever ☐ fatigue ☐ headache ☐ chills  
☐ vomiting ☐ diarrhea ☐ muscle pain ☐ joint pain  
☐ swollen lymph nodes ☐ others, such as \_\_\_\_\_

#### 3. In response to above mentioned side-effects, I took the following medication

- ☐ NSAID (i.e. Ibuprofen)  
☐ Paracetamol  
☐ Metamizol (i.e. Novalgin)  
☐ Aspirin  
☐ others, such as \_\_\_\_\_