Supplemental information

Immunogenicity and reactogenicity of heterologous immunization against SARS CoV-2 using Sputnik V, ChAdOx1-S, BBIBP-CorV, Ad5-nCoV, and mRNA-1273

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Supplementary Figures

Figure S1. Antibody response of participants in the 15 arms of the study before second dose administration. Related to Figure 3. A) IgG anti-spike antibody levels quantified according to the WHO International Antibody Standard. The geometric means with 95% confidence intervals are shown. B) Neutralizing titers of serum antibodies against the ancestral SARS-CoV-2 variant. The geometric means with 95% confidence intervals are shown. Kruskal-Wallis One-Way ANOVA was performed to compare antibody response of participants in the 15 arms of the study before second dose administration. Mann-Whitney U test was used to compared different cohorts. Sputnik V C1 vaccine (rAd26, Gamaleya), Sputnik V C2 vaccine (rAd5, Gamaleya), ChAdOx1-S vaccine (AstraZeneca), BBIBP-CorV vaccine (Sinopharm), Ad5-nCoV vaccine (CanSino), mRNA-1273 vaccine (Moderna).
Figure S2. Antibody response in participants with homologous and heterologous vaccine combinations evaluated at day 28 after second dose administration. Related to Figure 3. A) IgG anti-spike antibody levels quantified according to the WHO International Antibody Standard. The geometric means with 95% confidence intervals are shown. B) Neutralizing titers of serum antibodies against the ancestral SARS-CoV-2 variant. The geometric mean with 95% confidence intervals is shown. C) Non-inferiority analysis for the antibody response of heterologous schedules compared with homologous schedules at day 28 after the administration of the second dose. The heterologous group was considered inferior or superior to the homologous group if the lower limit of the one-sided 97.5% CI was lower than 0.63 or greater than 1, respectively. GMR (Geometric Mean Ratio) and two-sided 95% CIs are presented. Sputnik V C1 vaccine (rAd26, Gamaleya), Sputnik V C2 vaccine (rAd5, Gamaleya), ChAdOx1-S vaccine (AstraZeneca), BBIBP-CorV vaccine (Sinopharm), Ad5-nCoV vaccine (CanSino), mRNA-1273 vaccine (Moderna).
Figure S3. Neutralizing activity against Omicron in participants with homologous and heterologous vaccine combinations evaluated at day 14 after second dose administration. Related to Figure 3. A) Neutralizing titers against a locally isolated Omicron BA.1 variant. The geometric mean with 95% confidence intervals is shown. B) Fold change neutralization reduction titers against Omicron BA.1 variant with respect to that against Original B1 virus at 14 days after vaccination were calculated as the ratio of geometric mean titer of Original B1/Omicron BA.1 in paired samples. Sputnik V C1 vaccine (rAd26, Gamaleya), Sputnik V C2 vaccine (rAd5, Gamaleya), ChAdOx1-S vaccine (AstraZeneca), BBIBP-CorV vaccine (Sinopharm), Ad5-nCoV vaccine (CanSino), mRNA-1273 vaccine (Moderna).