Figure S1. S-RBD-based ELISA assay validation. A total of 110 sera/plasma samples obtained from COVID-19 patients were confirmed by PCR (collected within the first six weeks after the onset of illness symptoms), and 72 sera samples collected before the pandemic (before 2018) from pre-pandemic sera were subjected to antibody detection. **(a)** COVID-19 sera exhibited significantly higher ODs than pre-pandemic control sera in both tests (P < 0.0001). S-RBD specific IgA levels are presented as optical densities (OD450nm–620nm); **(b)** S-RBD specific IgA levels obtained in COVID-19 patients were stratified according to the blood collection time after the onset of the symptoms. The highest IgA levels were obtained with sera collected between day 15 and day 28; **(c)** ROC curve analysis representing the performance of the S-RBD-based ELISA test performance was estimated by the area under the ROC curve (AUC) established using the RT-PCR test as a gold standard. The overall performance of the anti-S-RBD ELISA was high (AUC=0.877, p < 0.0001) with a sensitivity of 83% and a specificity of 95%. Bars indicate median values. Mann-Whitney t-test was used to compare differences between the two groups, a 2-tailed P-value <0.05 was considered statistically significant. *** $P \le 0.001$, ** $P \le 0.01$ and *$P \le 0.05$
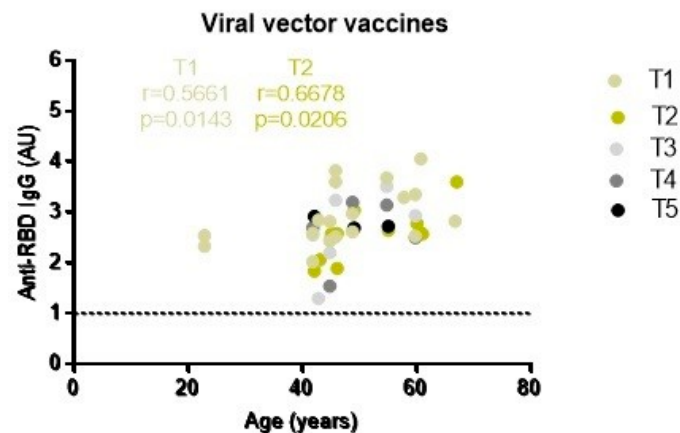

Figure S2. Correlation between age with IgG antibody levels following viral vector vaccination. The graph shows IgG antibody against RBD (AU, Y-axis) plotted against age (years, X-axis) 3-4 weeks after the first immunization (T1, light yellow), 3 months (T2, dark yellow), 5 months (T3, light grey), 7 months (T4, dark grey), and 12 months after that (T5, black). Associations were calculated using a nonparametric Spearman correlation with a 95% confidence interval and a two-tailed p-value <0.05 was statistically significant