SUPPORTING INFORMATION FOR:

Large-scale validation of a plasmonic sensor for SARS-CoV-2 pseudo-neutralization with a cohort of food and retail workers

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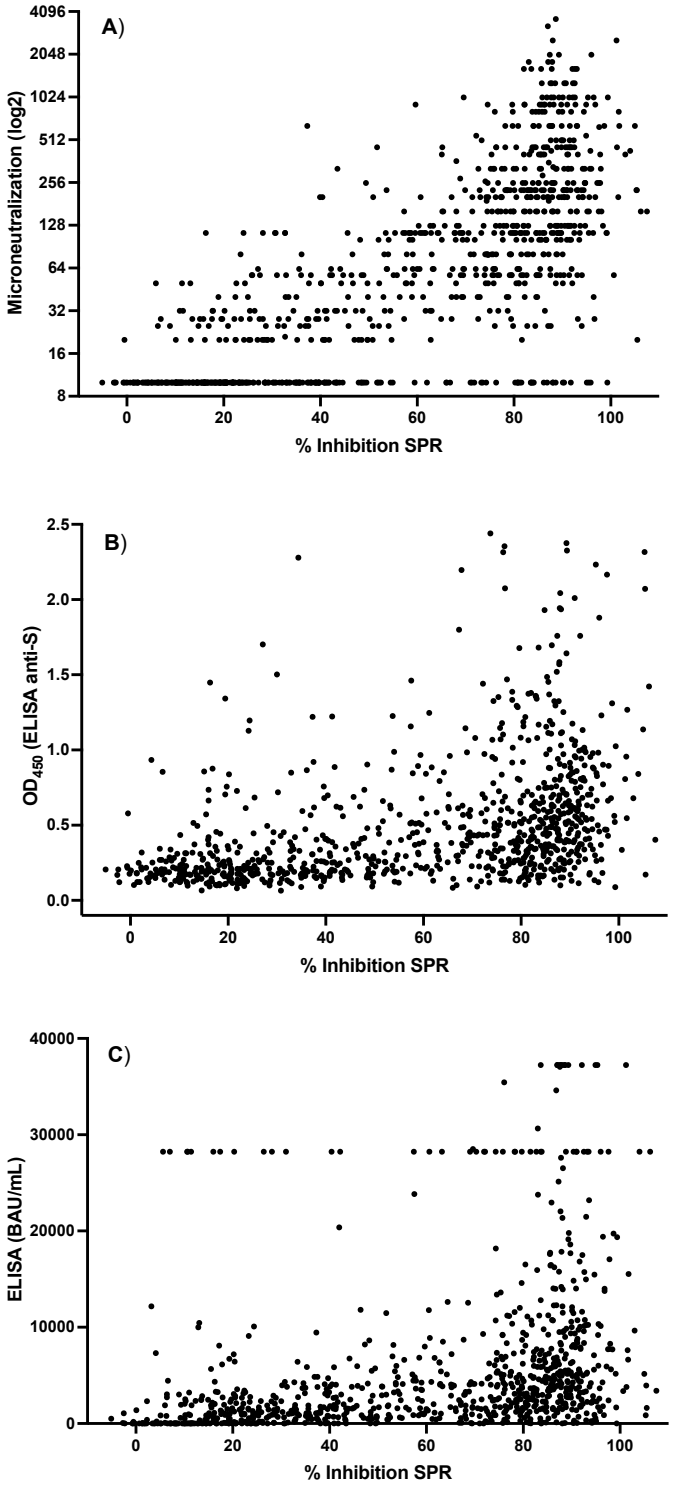

Figure S1. Raw data points for the cross-correlation studies of SPR with microneutralization (A), colorimetric ELISA (B), and chemiluminescence ELISA (C).

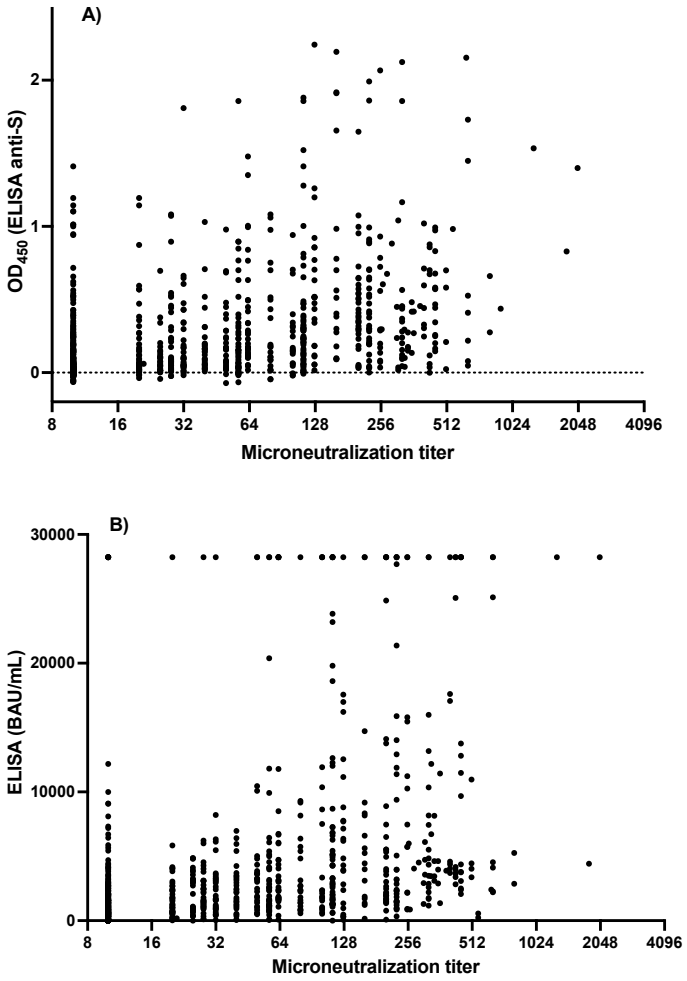

Figure S2. Raw data points for the cross-correlation studies of microneutralization with colorimetric ELISA (A) and chemiluminescence ELISA (B).

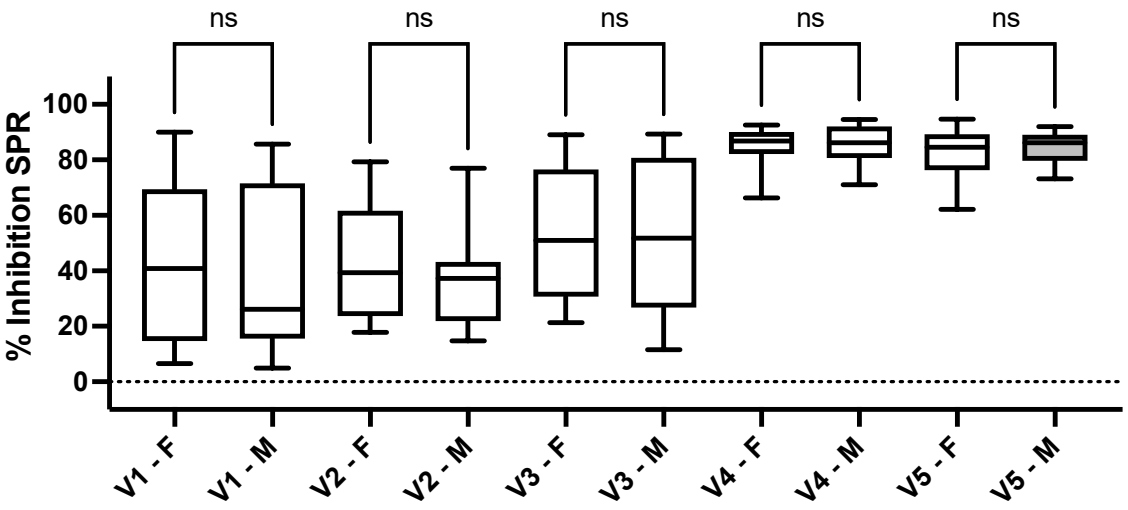

Figure S3. Impact of the participants biological sex on %Inhibition SPR (F: Female, white bars; M: Male, gray bars). No statistical differences were observed when stratifying participants by sex for every visit. Statistics are with a one-way ANOVA test; females (V1: n = 176, V2: n = 76, V3: n = 56, V4: n=107, and V5: n=107) and males (V1: n = 128, V2: n = 67, V3: n = 49, V4: n=87, and V5: n = 86).

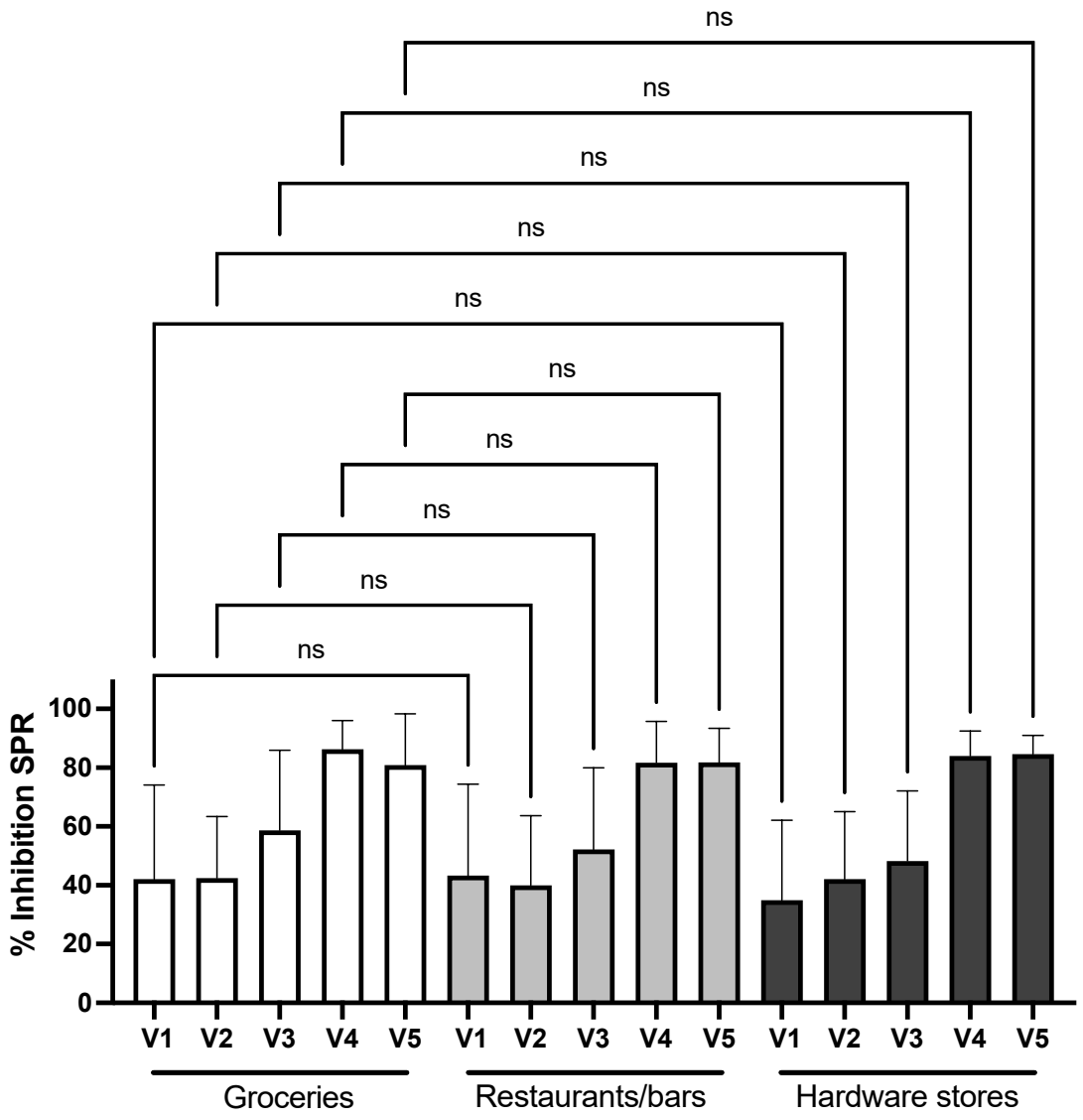

Figure S4. Impact of the workplace on the %Inhibition SPR (Groceries: white bars; Restaurants and bars: light gray bars and Hardware stores: dark gray bars). No statistical differences were observed when stratifying participants by workplace for every visit. Statistics are with a one-way ANOVA test; groceries (V1: n = 112, V2: n = 38, V3: n = 34, V4: n=73, and V5: n=73), restaurant and bars (V1: n = 148, V2: n = 68, V3: n = 39, V4: n = 94, and V5: n = 93), and hardware stores (V1: n = 43, V2: n = 37, V3: n = 26, V4: n = 27, and V5: n = 27).

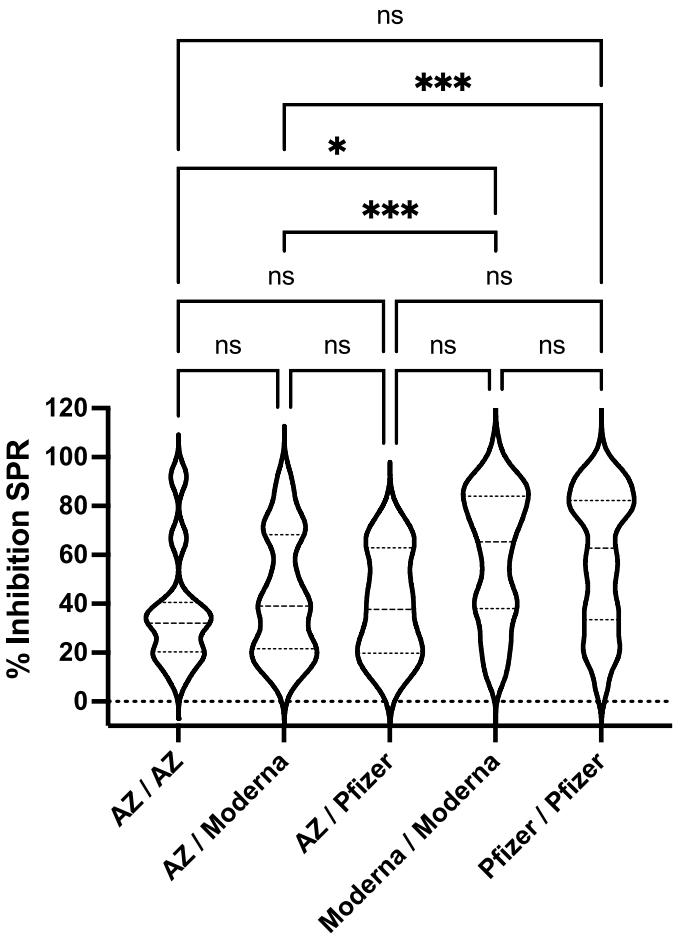

Figure S5. Comparison of the %Inhibition SPR for individuals having received two doses of viral vector or mRNA vaccines. ns: not statistically different, * $p < 0.05$, *** $p < 0.001$, AZ: AstraZeneca's COVISHIELD vaccine, Moderna: Moderna's Spikevax vaccine, and Pfizer: Pfizer-BioNTech's Comirnaty vaccine. n = 11 for AZ/AZ, n = 70 for AZ/Moderna, n = 7 for AZ/Pfizer, n = 140 for Moderna/Moderna and n = 256 for Pfizer/Pfizer.

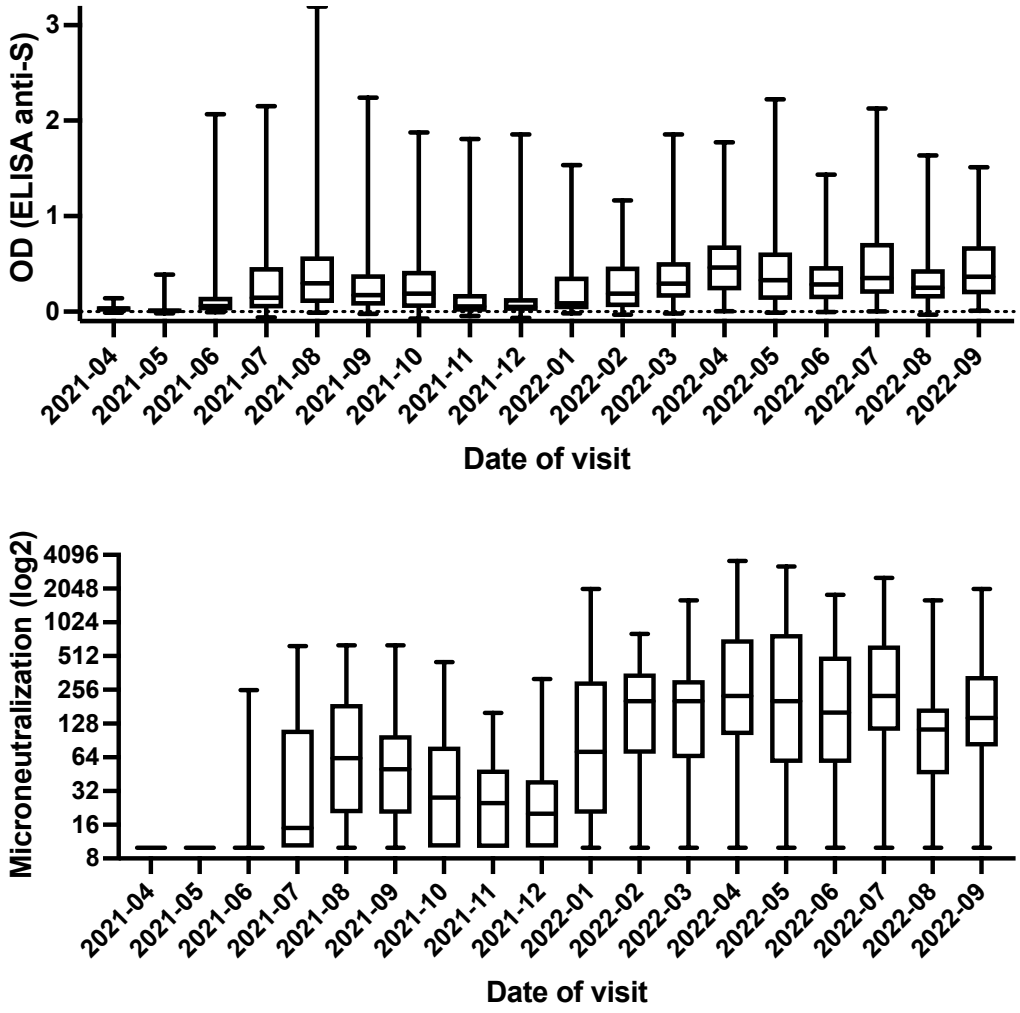

Figure S6. Temporal trend of the ELISA (top) and microneutralization (bottom) inhibition for the cohort of individuals. The first rise in inhibition coincides with the vaccination campaign of the cohort and the spike in inhibition in 2022-01 is from the many infections reported and administration of the booster shot. The different waves (blue: 3rd wave, green: 4th wave; red: 5th wave, light gray: 6th wave and dark gray: 7th wave) and event timeline are detailed by the *Institut National de Santé Publique du Québec* [1]. The 5th to the 7th waves were associated to the Omicron strain. Box plots represent the 25th to the 75th percentile, while error bars delimit the minimum to maximum range of responses observed.

Reference

1. COVID-19 timeline in Quebec. https://www.inspq.qc.ca/covid-19/donnees/ligne-du-temps (accessed February 23rd, 2023).