

# Snapshot of anti-SARS-CoV-2 IgG antibodies in Covid-19 recovered patients in Guinea

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## Abstract

Naturally-acquired immunity following primary SARS-CoV-2 infection was investigated from 200 patients (90% of African extraction) who recovered from Covid-19 since at least ~ 2.4 months (72 days). The detection of IgG antibodies to SARS-CoV-2 were performed by using an in-house ELISA assay against the Receptor Binding Domain (RBD) of SARS-CoV-2 spike1 protein (RBD/S1-IH kit), showing 73% of positive sera (146/200) with an Optical Density (OD) ranging from 0.13 to 1.19 and a median value of 0.56 (IC95: 0.51-0.61). Median OD value at 3 months (1.040) suddenly decreased after and remains stable around OD 0.5 until 15 months post-infection. No significant difference was found between male (M) and female (F) (median OD values :0.62 (M) vs 0.49 (F), P-value:0.073). In contrast, the OD median value was significantly higher among the 60-100 age group (0.87) compared to other groups, with a noteworthy odds ratio compared to 0-20 age group (OR: 9.69, P-value: 0.044\*). Compared to a nucleoprotein ELISA commercial kit, a better concordance was found between anti-spike1 protein ELISA (RBD/S1-IH Elisa kit and a whole spike1 protein ELISA commercial kit) and revealed also higher seropositivity rates. These findings emphasize the relevance of specific ELISA kits for accurate seropositivity rates.

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