

Abstract Submitted
for the DPP20 Meeting of
The American Physical Society

Resolution of diagnostic problems related to SARS CoV-2 infection through determination of antibody avidity. GEORG BAUER, Univ Freiburg — The diagnosis of SARS Corona virus-2 (SARS-CoV-2) infection and the health management of its associated disease COVID-19 requires the detection of antibody responses. The time pattern of detectability of IgM and IgG antibodies is usually taken as the basis for distinction between acute, recent and past infections. Thereby IgM directed towards viral proteins is regarded as an early marker of infection, which is lost after a few weeks. IgG directed towards viral proteins is expected to become detectable after the IgM response and to be maintained for a much longer time. The analysis of the so far available data on antibody responses towards SARS CoV-2 shows a high degree of variability of the pattern of IgM/IgG detectability in serum. This may easily lead to confusion and diagnostic misinterpretations. This talk presents immunological mechanisms that explain the observed variability of the antibody responses. In addition, a path for the resolution of these diagnostic problems is suggested. Its technical application is based on our knowledge about the maturation of the binding strength of IgG antibodies (termed “avidity”) after an infection. The use of this method for health management of COVID-19 and for the control of vaccination programs will be discussed.

Georg Bauer
Univ Freiburg

Date submitted: 01 Jul 2020

Electronic form version 1.4