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Pathogen Reduction Reduces SARS-CoV-2 in Plasma and Whole Blood

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Similar to other respiratory viruses, it is suspected that SARS-CoV-2 is not transfusion-transmitted. Nevertheless, SARS-CoV-2 has been detected in plasma, and the medical community must remain vigilant. In order to determine if pathogen reduction reduces SARS-CoV-2 in plasma and whole blood, 9 plasma samples prepared from whole blood and frozen within 24 hours (PF24) and three non-leukoreduced whole blood samples were inoculated with SARS-CoV-2 and then treated with riboflavin and UV light (Mirasol Pathogen Reduction Technology System, Terumo BCT). Infectious viral titers of SARS-CoV-2 were then determined pre- and post-treatment for all samples. Mean log reductions in viral titers were $\geq 4.79\pm0.15$ in plasma and 3.30 ± 0.26 in whole blood, more than effective enough to reduce the virus below infectious levels. Since SARS-CoV-2 RNA has been detected in blood products and this virus has a long asymptomatic latent period, pathogen reduction may help protect the blood supply during the COVID-19 pandemic.

Reference:

Ragan I, Hartson L, Pidcoke H, Bowen R, Goodrich R. Pathogen reduction of SARS-CoV-2 virus in plasma and whole blood using riboflavin and UV light. PLOS One 2020; 15(5): e0233947.

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