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based on the original design by Dr. Robert Dunlop

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$\gamma\delta$ LYMPHOCYTE RESPONSE TO PORCINE REPRODUCTIVE AND RESPIRATORY SYNDROME VIRUS

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Porcine reproductive and respiratory syndrome virus (PRRSV) constitutes one of the most important diseases that swine industry faces today. PRRSV develops a cell-mediated immune response inducing various T-lymphocyte functions, however like humoral responses, their relative importance in protection and clearance of the virus is not yet completely understood. Unlike humans, swine contain a large percentage of $\gamma\delta$ T-lymphocytes in peripheral circulation. $\gamma\delta$ lymphocytes encompass the ability to act in both innate and specific immunity by circulating with various TCR configuration capable of recognizing multiple pathogens in a non-MHC restricted manner. The objective of this study was to define whether $\gamma\delta^+$ lymphocytes respond to PRRSV upon exposure and re-exposure. Gilts were

intranasally inoculated with a field isolate MN-30100 at a $10^{2.4}$ TCID₅₀ and bled on 0, 14, 30, 50, 70, 90, 110, and 120, then re-exposed on day 137. Antigen specific functional responses were evaluated throughout the study for proliferation and IFN- γ production. By day 14 pi circulating $\gamma\delta$ lymphocytes expanded; following antigen stimulation, $\gamma\delta$ lymphocyte proliferated continuing throughout the experiment. Moreover, $\gamma\delta$ lymphocytes produced IFN- γ on day 14 through day 50. Following re-exposure both $\gamma\delta^+$ and CD-4⁺ lymphocytes responded. In conclusion, $\gamma\delta^+$ lymphocytes responded to PRRS exposure by day 14 by proliferation and IFN- γ production. Both $\gamma\delta^+$ and CD-4⁺ lymphocytes responded following re-exposure.