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ABSTRACT

Pigs co-infected with porcine reproductive and respiratory syndrome virus (PRRSV) and porcine circovirus type 2 (PCV2) have been shown to develop more severe disease than pigs infected with PRRSV or PCV2 only. The underlying interaction mechanisms between the two viruses in developing the disease are unclear. The present study investigates the mRNA expression of Toll-like receptors (TLRs) signaling-related molecules in peripheral blood mononuclear cells from pigs infected with PRRSV or PCV2 or both. The mRNA expression levels were determined by quantitative real-time RT-PCR. Co-infection of pigs with PRRSV and PCV2 resulted in a negatively synergistic effect on the mRNA expression of the negative regulators of TLR, including A20, Bcl-3, IRAK-M, MKP-1, SARM1 and SIGIRR, as well as the TLRs downstream transcription factors IRF-1 and IRF-3. A positively synergistic effect of