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## The effect of autophagy induction on zika virus parthogenesis

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The Zika virus (ZIKV) is the causative agent of Zika fever, a disease that has been associated with the development of microcephaly in the fetus when pregnant mothers are infected. Previous studies have shown that induction of autophagy could potentially influence viral replication; this study focuses on how presence of autophagy proteins affects ZIKV replication. An autophagy protein ATG12 knockout was generated from trophoblast cells. The ATG12 knockout line, along with the wild type, were cultured to approximately 90% confluence before being infected with ZIKV. They were then treated with 100 nM rapamycin. They were incubated for 24hrs or 48hrs. At these timepoints, the wildtype and the ATG12 ko cell samples were lysed using TRK lysis buffer. RNA samples were then extracted and subjected to RT-PCR to generate cDNA, which was used for QPCR analysis. This showed that treatment of rapamycin at 24hrs or 48hrs did not cause significant difference in the viral load at 100 nM in both wild type and ATG12 knockout cells, which could be attributed to the concentration of rapamyacin being 100 nM. Therefore, future research will focus on the effects of rapamyacin at the concentration of 5 nM and 300 nM.

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