

Insights: Publications

Chromosome 19 microRNAs exert antiviral activity independent from type III interferon signaling

Placenta

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Cultured primary human trophoblasts (PHT), derived from term placentas, are relatively resistant to infection by diverse viruses. The resistance can be conferred to non-trophoblastic cells by pre-exposing them to medium that was conditioned by PHT cells. This antiviral effect is mediated, at least in part, by microRNAs (miRNA) expressed from the chromosome 19 microRNA cluster (C19MC). Recently we showed that PHT cells and cells pre-exposed to PHT medium are also resistant to infection by Zika virus (ZIKV), an effect mediated by the constitutive release of the type III interferons (IFN) IFN lambda-1 and IFN lambda-2 in trophoblastic medium. We hypothesized that trophoblastic C19MC miRNA are active against ZIKV, and assessed the interaction of this pathway with IFN lambda-1 - mediated resistance.

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