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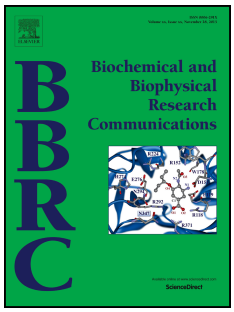

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ANTAGONISM OF TYPE I INTERFERON BY FLAVIVIRUSES

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HIGHLIGHTS:

- Flaviviruses are arthropod-borne viruses, many of which represent an expanding threat to public health worldwide.
- Type I Interferons are key innate immune regulators for antiviral defense.
- Flaviviruses have evolved multiple strategies to overcome innate immune detection and ensure viral replication and spread.
- This evolutionary struggle for survival results in a balance for coexistence of both hosts and viruses.

KEYWORDS

Flaviviruses; innate immunity; type I interferon; viral innate immune evasion; interferon antagonism.

ABSTRACT

The prompt and tightly controlled induction of type I interferon is a central event of the immune defense against viral infection. Flaviviruses comprise a large family of arthropod-borne positive-stranded RNA viruses, many of which represent a serious threat to global human health due to their high rates of morbidity and mortality. All flaviviruses studied so far have been shown to counteract the host's immune response to establish a productive infection and facilitate viral spread. Here, we review the current knowledge on the main strategies that human pathogenic flaviviruses utilize to escape both type I IFN induction and effector pathways. A better understanding of the specific mechanisms by which flaviviruses activate and