



ID 3331. Replication kinetics and host adaptability of Bagaza Virus: Insights into its zoonotic potential

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Introducción y Objetivo/Background and objectives

Bagaza virus (BAGV) is a flavivirus belonging to the Ntaya serocomplex. The zoonotic potential of BAGV has been suggested based on the detection of neutralizing anti-BAGV antibodies in some human patients with meningoencephalitis. In this study we present data on the isolation of BAGV from red-legged partridge and its replication kinetics in several cell lines, as well as subcellular localization of RNA replication sites.

Métodos/Methods

BAGV RNA was extracted from the brain of an infected red-legged partridge. Vero cells were transfected with BAGV RNA and infectious viral particles were isolated after several blind passages. Cell lines used: human (A549 (lung), HEK-293T (kidney), Huh7.5 (hepatoma), LN229 (glioblastoma)), other mammalian cells (BHK-21 (hamster kidney fibroblasts) and Vero (kidney epithelial) from monkey), mosquito cells (AF5) and avian cells (CCL41 (duck fibroblast) and DF1 (chicken fibroblast)). dsRNA BAGV were detected by immunocytochemistry using fluorescent antibodies.

Resultados/Results

BAGV replicates very efficiently in monkey, mosquito, duck cells, and in the human cell lines HEK293T and Huh7.5. Replication of other human cells such as A549 or LN229, or hamster or chicken fibroblast is considerably lower, suggesting variability in the susceptibility of cell lines to the virus. These results may reflect differences in the ability of BAGV to adapt to different host types. BAGV dsRNA shows that replication occurs in the cytoplasm.

Conclusión y Relevancia/Conclusions and relevance

BAGV efficiently replicates in some mammalian, avian, and mosquito cell lines, with variable replication in human cells depending on cell type. Replication occurs in the cytoplasm. These findings offer insights into the virus's biology, potential to adapt to hosts, zoonotic risk, and inform antiviral strategies and epidemiological surveillance. Understanding these viruses is crucial in a world embracing the One Health concept.