



ID der Kurzfassung : 410

Bats Are Susceptible to H5N1 Infection but Rapidly Control Virus Replication

Inhalt

Highly pathogenic avian influenza A virus (H5N1) continues to circulate globally in wild birds and is increasingly detected in mammals, highlighting the risk of cross-species transmission. Serological evidence of exposure in South American vampire bats and reports of H5N1-positive flying foxes in Bangladesh suggest that bats are susceptible to infection. However, their role in H5N1 ecology remains unclear. We investigated H5N1 susceptibility in bats using in vitro and in vivo models. Bat-derived cell lines from diverse species supported H5N1 replication, demonstrating permissiveness to infection. We then developed an experimental infection model in Jamaican fruit bats (*Artibeus* spp.) and inoculated animals via intranasal and oral routes. Infected bats showed productive infection, with viral RNA and infectious virus detected in respiratory and intestinal samples. Virus shedding was transient and declined within five days. Despite infection, bats exhibited no clinical signs, morbidity or mortality, suggesting effective control of viral replication and limited disease progression. These findings demonstrate that Jamaican fruit bats are susceptible to H5N1 infection and can transiently shed virus without developing severe disease. The results identify bats as potential incidental hosts and raise important questions about their role in H5N1 maintenance and transmission at the wildlife–livestock–human interface.

This work was supported by the Intramural Research Program, NIAID,NIH.

Keywords

H5N1, Influenza, Bats, Cross-species transmission

Registration ID

OHS26-110

Professional Status of the Speaker

Postdoc

Junior Scientist Status

No, I am not a Junior Scientist.

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Track Klassifizierung: Novel and Emerging Pathogens

Typ des Beitrags: Oral presentation

Eingereicht von **Dr. WICKENHAGEN, Arthur** <arthur@wickenhagen.com> am **Sonntag, 21. Juni 2026**