

Chikungunya

Chikungunya is an [infection](#) caused by the chikungunya virus (CHIKV).

Symptoms include fever and joint pain.

These typically occur two to twelve days after exposure.

Other symptoms may include headache, muscle pain, joint swelling, and a rash.

Most people are better within a week; however, occasionally the joint pain may last for months.

The risk of death is around 1 in 1,000.

The very young, old, and those with other health problems are at risk of more severe disease.

Zhang et al., tested a chimeric virus in which the [Vesicular stomatitis virus](#) (VSV) [glycoprotein](#) is replaced with the Chikungunya polyprotein E3-E2-6K-E1 (VSVΔG-CHIKV). Control mice with brain tumors survived a mean of 40 days after tumor implant. VSVΔG-CHIKV selectively infected and eliminated the tumor, and extended survival substantially in all tumor-bearing mice to over 100 days. VSVΔG-CHIKV also targeted intracranial primary patient derived melanoma xenografts. Virus injected into one melanoma spread to other melanomas within the same brain with little detectable infection of normal cells. Intravenous VSVΔG-CHIKV infected tumor cells but not normal tissue. In immunocompetent mice, VSVΔG-CHIKV selectively infected mouse melanoma cells within the brain. These data suggest VSVΔG-CHIKV can target and destroy brain tumors in multiple animal models without the [neurotropism](#) associated with the wild type VSV glycoprotein ¹⁾.

¹⁾

Zhang X, Mao G, van den Pol AN. Chikungunya-vesicular stomatitis chimeric virus targets and eliminates brain tumors. *Virology*. 2018 Jul 25;522:244-259. doi: 10.1016/j.virol.2018.06.018. [Epub ahead of print] PubMed PMID: 30055515.

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