

Taxonomic Proposal to the ICTV Executive Committee

Creating Species in an existing genus

Code[†] **FT2003.088V.01** To designate the following viruses as species in the genus:

Varicellovirus

belonging to the family[°] : *Herpesviridae*

Equid herpesvirus 3

[†] Assigned by ICTV officers

[°] leave blank if inappropriate or in the case of an unassigned genus

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New Taxonomic Order

Order

Family *Herpesviridae*

Genus *Varicellovirus*

Type Species

List of Species in the genus *Equid herpesvirus 3*

List of Tentative Species in the Genus

List of Unassigned Species in the Family

Argumentation to justify the designation of new species in the genus

Species demarcation criteria in the genus

LIST OF SPECIES DEMARCATION CRITERIA IN THE FAMILY HERPESVIRIDAE

Related herpesviruses are classified as distinct species if (a) their nucleotide sequences differ in a readily assayable and distinctive manner across the entire genome and (b) they occupy different ecological niches by virtue of their distinct epidemiology and pathogenesis or their distinct natural hosts. A paradigm is provided by HHV-1 and HHV-2, which differ in their sequence throughout the genome, tend to infect different epithelial surfaces and exhibit distinct epidemiological characteristics. These two viruses recombine readily in culture, but despite the fact that they can infect the same sites in the host, no recombinants have been isolated in nature and the two viruses appear to have evolved independently for millions of years.

DISTINGUISHING FEATURES IN THE SUBFAMILY ALPHAHERPESVIRINAE

The nucleotide sequences or predicted amino acid sequences of the subfamily members form a distinct lineage within the family. A region of the genome comprising the unique short sequence (U_S) and flanking inverted repeats (IR_S and TR_S) contains genes homologous to those found in HHV-1 and characteristic of the subfamily. The viruses productively infect fibroblasts in culture and epithelial cells *in vivo*. Many members cause overt, usually vesicular epithelial lesions in their natural hosts.

Argumentation to justify the designation of new species in the genus

Proposal

Assign *Equid herpesvirus 3* (EHV-3) as a species in the genus *Varicellovirus*. EHV-3 is currently a tentative species in this genus.

Background

Phylogenetic trees based on the glycoprotein G gene of this virus show unambiguously that it is a distinct species in the *Varicellovirus* lineage.

Reference

Hartley *et al.* (1999), Arch. Virol. 144, 2023-2033.