

2.1 Properties

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The BVD Virus

[1] Spikes[2] Envelope[3] Capsid[4] Genome

Taxonomy

The BVD virus belongs to the family of Flaviviridae. The name "Flavivirus" is derived from the Yellow Fever virus (flavus = lat. yellow). Within the Flaviviridae, the genera Flavivirus, Pestivirus and Hepacivirus are distinguished. BVDV as well as Classical Swine Fever virus and Border Disease virus are part of the pestivirus genus. Representatives as important as the yellow fever virus, the Japanese Encephalitis virus or the West Nile virus belong to the genus Flavivirus. The genus Hepacivirus consists of the Hepatitis C virus and a number of less well defined HCV-like viruses.

Family Genus Species
 Flaviviridae Flavivirus Dengue Virus
 Yellow Fever Virus
 Japanese Encephalitis Virus
 Louping Ill Virus
 West Nile Virus and others Pestivirus Border Disease Virus
 BVD Virus
 Swine Fever Virus Hepacivirus Hepatitis C Virus

Morphology and physicochemical Properties

Pestiviruses have a diameter of 40 - 60 nanometres and are therefore among the smaller viruses. They show an icosahedral capsid structure (consisting of one single capsid protein) and are enclosed by an envelope (3 virus coded membrane proteins). As such, they can be inactivated by all common disinfectants. Their tenacity is low: at 37°C they lose infectivity after approx. 4 days, at 56°C after approx. 45 minutes.

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