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Titel des Beitrags:
In vivo image analysis of BoHV-4-based vector in mice.

Abstract:
Due to its biological characteristics bovine herpesvirus 4 (BoHV-4) has been considered as an appropriate gene delivery vector. Its genomic clone, modified as a bacterial artificial chromosome (BAC), is better genetically manipulable and can be used as an efficient gene delivery and vaccine vector. Although a large amount of data have been accumulated in vitro on this specific aspect, the same cannot be asserted for the in vivo condition. Therefore, here we investigated the fate of a recombinant BoHV-4 strain expressing luciferase (BoHV-4-A-CMVluc?TK) after intraperitoneal or intravenous inoculation in mice, by generating a novel recombinant BoHV-4 expressing luciferase (BoHV-4-A-CMVluc?TK) and by following the virus replication through in vivo imaging analysis. BoHV-4-A-CMVluc?TK was first characterized in vitro where it was shown, on one hand that its replication properties are identical to those of the parental virus, and on the other that the transduced/infected cells strongly express luciferase. When BoHV-4-A-CMVluc?TK was inoculated in mice, either intraperitoneally or intravenously, BoHV-4-A-CMVluc?TK infection/transduction was exclusively localized to the liver, as detected by in vivo image analysis, and in particular almost exclusively in the hepatocytes, as determined by immuno-histochemistry. These data,
that add a new insight on the biology of BoHV-4 in vivo, provide the first indication for the potential use of a BoHV-4-based vector in gene-transfer in the liver.

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