|  |
| --- |
| **Master-/Bachelorarbeit 4**  **Prevalence of porcine cytomegalovirus (PCMV) in wild boars** |
|  |
| **Institute of Virology; Free University Berlin** |
| Dr. rer. nat. Joachim Denner |
| [Joachim.Denner@fu-berlin.de](mailto:Joachim.Denner@fu-berlin.de) |
|  |
| PCMV is a porcine roseolovirus closely related to human herpesvirus 6 (HHV-6) and HHV-7. PCMV has been shown to reduce the survival time of pig xenotransplants in non-human primates and is therefore of importance for xenotransplantation using pig cells, tissues and organs. Using highly sensitive methods (PCR-based, immunological) the prevalence of PCMV in multiply genetically modified pigs generated for xenotransplantation, in slaughterhouse pigs and different minipigs has been studied, however the prevalence in wild boars is still unknown. Using these methods wild boars from Germany and Italy should be screened for PCMV. |
| Blood and tissue samples of wild boars will be screened for PCMV using PCR and real-time PCR. In addition, serum samples will be screened for antibodies against PCMV using Western blot analysis and ELISAs based on recombinant viral proteins or viral lysates. Recombinant proteins and virus pellets have to be generated. |

1. Denner J et al. Impact of porcine cytomegalovirus on long-term orthotopic cardiac xenotransplant survival. Sci Rep. 2020 Oct 16;10(1):17531
2. Denner J, Bigley TM, Phan TL, Zimmermann C, Zhou X, Kaufer BB. Comparative Analysis of Roseoloviruses in Humans, Pigs, Mice, and Other Species. Viruses. 2019 Nov 30;11(12):1108
3. Denner J. Reduction of the survival time of pig xenotransplants by porcine cytomegalovirus. Virol J. 2018 Nov 8;15(1):171
4. Fiebig U, Abicht JM, Mayr T, Längin M, Bähr A, Guethoff S, Falkenau A, Wolf E, Reichart B, Shibahara T, Denner J. Distribution of Porcine Cytomegalovirus in Infected Donor Pigs and in Baboon Recipients of Pig Heart Transplantation. Viruses. 2018 Feb 6;10(2):66.
5. Fiebig U, Holzer A, Ivanusic D, Plotzki E, Hengel H, Neipel F, Denner J. Antibody Cross-Reactivity between Porcine Cytomegalovirus (PCMV) and Human Herpesvirus-6 (HHV-6). Viruses. 2017 Oct 28;9(11):317.
6. Morozov VA, Heinrichs G, Denner J. Effective Detection of Porcine Cytomegalovirus Using Non-Invasively Taken Samples from Piglets. Viruses. 2017 Jan 12;9(1):9
7. Morozov VA, Plotzki E, Rotem A, Barkai U, Denner J. Extended microbiological characterization of Göttingen minipigs: porcine cytomegalovirus and other viruses. Xenotransplantation. 2016 Nov;23(6):490-496.
8. Plotzki E, Keller M, Ivanusic D, Denner J. A new Western blot assay for the detection of porcine cytomegalovirus (PCMV). J Immunol Methods. 2016 Oct;437:37-42.
9. Morozov VA, Morozov AV, Denner J. New PCR diagnostic systems for the detection and quantification of porcine cytomegalovirus (PCMV). Arch Virol. 2016 May;161(5):1159-68
10. Denner J. Xenotransplantation and porcine cytomegalovirus. Xenotransplantation. 2015 Sep-Oct;22(5):329-35.