

2 Aim of the study

2.1 Identification of novel binding partners of NS5A

Although there is a growing list of proteins that interact with NS5A, knowledge about the functional relevance of these binding partners is scarce. Therefore, one major goal of this study was the identification of novel binding partners of NS5A and their characterization with respect to the following questions: What is the relevance of potential binding partners for HCV replication? Which cellular binding partners are necessary to trigger the NS5A-mediated interference with host cell signal transduction? How do cellular binding partners of NS5A contribute to the HCV-associated liver pathogenesis?

2.2 Analysis of the interference of NS5A with host cell signal transduction

NS5A has been shown to interfere with several signal transduction pathways that regulate cell growth, cell proliferation and cell survival. However, the underlying mechanisms remain ill-defined. Therefore, the mechanism of NS5A-mediated deregulation of host cell signal transduction was supposed to be investigated in more detail.

2.3 Establishment of NS5A-transgenic mice as a novel model system for HCV-associated liver pathogenesis

The NS5A-mediated interference with host cell signaling is of potential interest with regard to HCV-associated liver pathogenesis. In order to analyze the contribution of NS5A to liver pathogenesis, an NS5A-transgenic mouse was supposed to be generated and initially characterized. More detailed analysis of NS5A-transgenic mice should reveal potential alterations in cellular signaling and/or histological changes that arise as a consequence of that.