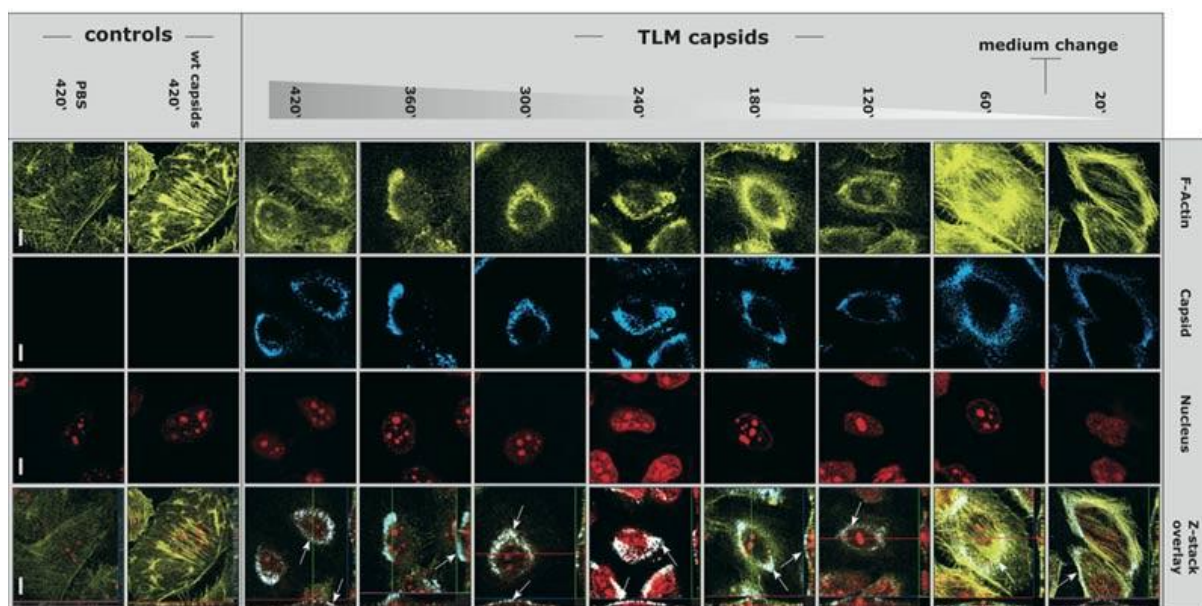


## Characterization of viral entry and post-entry steps

Based on kinome analyses of HBV- or HCV-infected cells, the modulation of signal transduction cascades by binding of HBV or HCV to the hepatocyte surface is being investigated. The relevance of these signalling cascades for viral entry and for the initial establishment of viral infection is studied with the aim of developing novel strategies to prevent spreading of HBV and HCV infection.

With respect to HBV post-entry steps, we are focusing on signalling events that regulate the intracellular nucleocapsid transport through the cytoplasm towards the nuclear pore complex. Specifically, factors regulating the association/dissociation of the nucleocapsid with the cytoskeleton are being identified. Moreover, we are investigating factors regulating the disaggregation of the nucleocapsid and the final import of the polymerase-linked viral genome into the nucleus.



Directed intracellular transport of nucleocapsids: Confocal laser scanning fluorescence microscopy of Huh7 cells grown for up to 420 min in the presence of cell permeable-nucleocapsids. The nucleocapsids were detected using a polyclonal HBcAg-specific antiserum (blue). Actin filaments were visualized by staining with FITC-phalloidin (green) and nuclei by staining with Toto-3 (red). The right panel shows the z-stack overlays. Source: PEI

With respect to the post-entry steps of HCV, our focus is on the characterization of factors modulating viral nucleocapsid stability in the context of their relevance for nucleocapsid disaggregation and for the release of the viral RNA genome.