

**File Name:** Supplementary Data 1

**Description:** Genome-wide miRNA mimic screen to identify cellular miRNAs modulating productive HCV infection. HCV core immunostaining-based, miRNA gain-of-function assays were performed in Huh7.5.1 cells.

**File Name:** Supplementary Data 2

**Description:** Genome-wide miRNA hairpin inhibitor screen to confirm cellular miRNAs associated with HCV infection in hepatocytes. HCV core immunostaining-based, miRNA loss-of-function assays were performed.

**File Name:** Supplementary Data 3

**Description:** miRNA transcriptome analysis based on NanoString nCounter digital quantification of miRNA counts in Huh7.5.1 cells, in the absence or the presence of HCV infection.

**File Name:** Supplementary Data 4

**Description:** Description: miRNA transcriptome analysis based on NanoString nCounter digital quantification of miRNA counts in primary human hepatocytes (PHHs), in the absence or the presence of HCV infection.

**File Name:** Supplementary Data 5

**Description:** Genome-wide miRNA microarray analysis in Huh7.5.1 cells mock infected or infected with HCV for 48 h.

**File Name:** Supplementary Data 6

**Description:** Lists of HCV host dependencies that are also predicted targets of the 12 validated, HCV-relevant cellular miRNAs through bioinformatics analyses.

**File Name:** Supplementary Data 7

**Description:** Transcriptome analyses of Huh7.5.1 cells transfected with miR-25, let-7f, or miR-130a mimic.