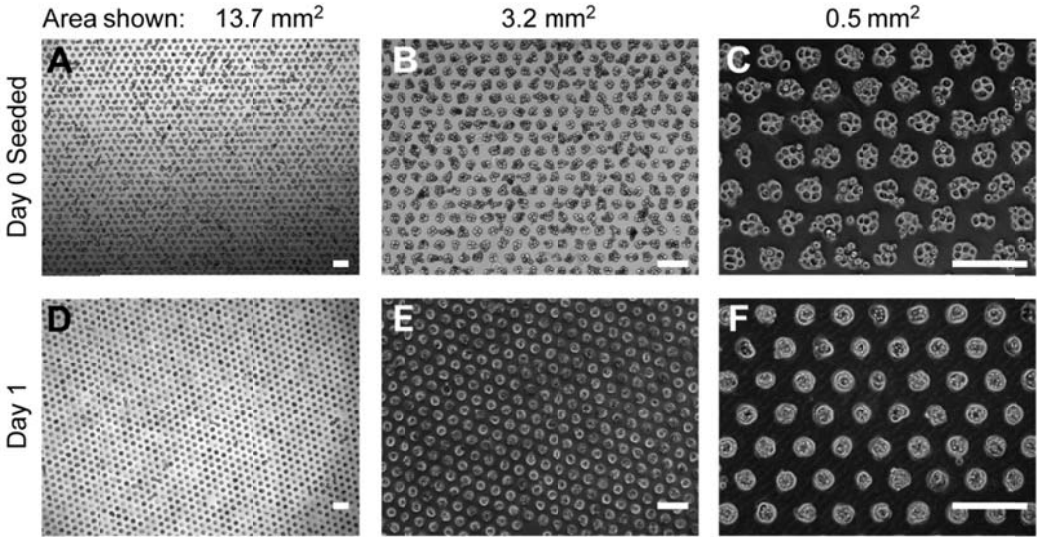
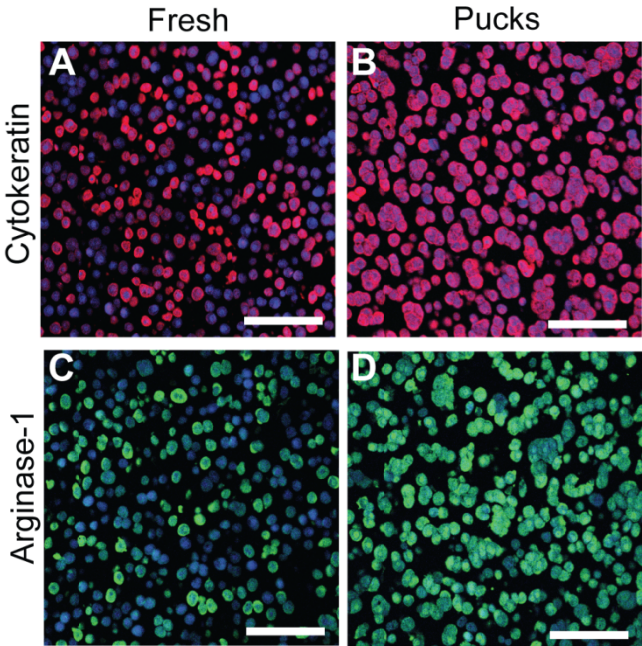


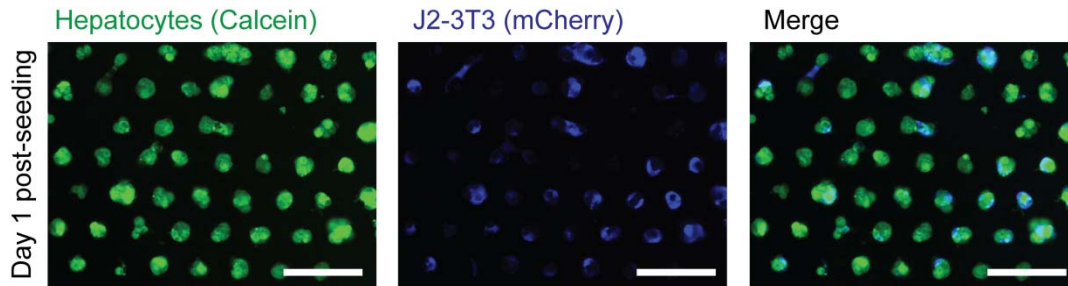
Supplemental Information



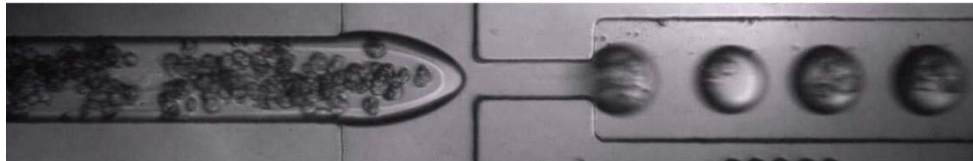
Supplemental Figure 1. Microisland seeding (A-C) and puck formation (D-F) by primary hepatocytes over large areas. All scale bars = 200 μ m.



Supplemental Figure 2. Hepatocyte pucks express liver proteins. After removal from collagen substrate, hepatocytes in freely floating pucks expressed both cytokeratin (red) and arginase-1 (green). Expression levels were greater in pucks (right) compared to freshly isolated purified hepatocytes (left), indicating that micropatterned culture selected for viable hepatocytes after isolation procedures.



Supplemental Figure 3. Cohesive mixed hepatocyte-fibroblast pucks after 24 hours of spreading with both cell types incorporated. All scale bars = 200 μm .



Supplemental Video 1. Flow-focusing nozzle of microfluidic encapsulation device. Cell-containing prepolymer reaches the junction from the left and is broken into droplets by perpendicular oil streams coming from the top and bottom. 100 μm -diameter droplets suspended in oil leave the junction towards the right and are exposed to UV light immediately downstream.