



**Supplementary Figure 1:** Isolation and culture of SOX9<sup>+</sup> bile duct cells from SOX9 CreER/mTmG mice in suspension culture system after digestion. **A)** Isolated bile duct from SOX9CreER/mTmG mice. **B)** Mixture of SOX9<sup>+</sup> cells in clusters (green) and hepatocytes (non-green) after 3 days of isolation. **C)** Clusters (green) of SOX9<sup>+</sup> bile duct cells handpicked under fluorescence microscope and grown in suspension culture.