**Supplementary Figure 1.** (A) Ad-BMP4-mediated transgene expression in mouse hepatocytes. Ad-B4 or Ad-GFP were used to infect mouse primary hepatocytes isolated from 4-week-old mice for 48h. Total RNA was isolated for TqPCR analysis of the expression of human BMP4. Relative expression was calculated by dividing the relative expression values (i.e., gene/$\text{Gapdh}$) in “**” $p < 0.01$, Ad-B4 group vs. Ad-GFP group. (B) Ad-B4-mediated transgene expression post intrahepatic injections. High titer recombinant adenoviruses Ad-B4 and Ad-GFP were purified via CsCl gradient ultracentrifugation (a). The desired virus bands are indicated by arrows. The 4-week-old mice were subjected to the intrahepatic injection of Ad-B4 or Ad-GFP ($10^{12}$ pfu in 30µl PBS/injection/animal, n=3 each virus) and sacrificed after 5 days. The retrieved liver samples were subjected to Western blotting to detect BMP4 expression (b). (C) Adenovirus-mediated transgene expression lasts more than 5 days post intrahepatic injection. The CsCl gradient purified Ad-Fluc and Ad-GFP were intrahepatically injected into 4-week-old mice. The mice were subjected to optical bioluminescence imaging with a luciferin substrate at different time points after adenovirus administration. Representative imaging results at day 5 of intrahepatic injection are shown. (D) Paraffin sections of liver samples were subjected to IHC staining, stains without primary antibody were used as negative controls. The liver samples prepared in Figure 1 (a), The liver samples prepared in Figure 4 (b), The liver samples prepared in Figure 4 (c).