months of age, dysplastic nodules and microscopic HCC by 9-10 months of age, and finally large HCC by 10-12 months of age.

Figure 3A-3D depicts HBx staining in the liver of a 6 month old (Figure 3A) and 9 month old (Figure 3C) mouse liver following treatment with PBS (Figure 3A and Figure 3C) or Synbiotic 2000™ (Figures 3B and 3D). Note that in both cases, lobular distribution of HBx gives rise to a more scattered distribution following treatment with Synbiotic 2000™, suggesting that HBx levels may be decreased with treatment.

Figure 4A-4C depicts graphs of limited microarray analysis showing expression of selected markers of carcinogenesis (columns 1-20) and immune mediators (columns 21-27) in HBx transgenic mice given Synbiotic 2000™ at the indicated ages compared to HBx transgenic mice give placebo in parallel. Values for differential expression were normalized with GAPDH. Other controls included one for genomic DNA contamination (MGDC), another for RNA quality (RTC), and another for general PCR performance (PPC).

Figure 5A-5D depicts livers from 4 SCFA fed mice obtained at 12 months of age. In Figure 5A, the number and size of observable tumors were then estimated on the surface of the liver lobules. Examples of these tumors are show on the livers of mice treated with PBS (Figures 5A and 5B) or with SCFAs (Figure 5C) for 3 months starting at 9 months of age. Arrows are pointing to the tumor nodules. The results are representative of mice from each group. Figure 5D is a summary of characteristics of tumors from both groups of mice.

Figure 6A-6E depicts H&E stained liver sections and a bar graph showing the characteristics of tumors in SCFA fed mice. HBx mice were treated with SCFAs or PBS for three months starting at nine months of age. Figure 6A shows an example of a small tumor in SCFA treated mice (x40). Figure 6B shows an example of a medium sized tumor nodule in an SCFA treated mouse (x40). Figure 6C shows an example of a large tumor from PBS treated mouse. Figure 6D shows a higher magnification of an HCC nodule from a PBS treated mouse (x100). Tumor (T) is on the left and non-tumor (NT) liver is on the right. Arrows are pointing to the tumor nodules. Figure 6E shows the results of treatment of nine month old mice for three months with SCFAs (+) or PBS (-). Formalin fixed tissues were cut and stained by H