Supplementary Information

Redistribution of lamina-associated domains reshapes binding of pioneer factor FOXA2 in development of NAFLD.

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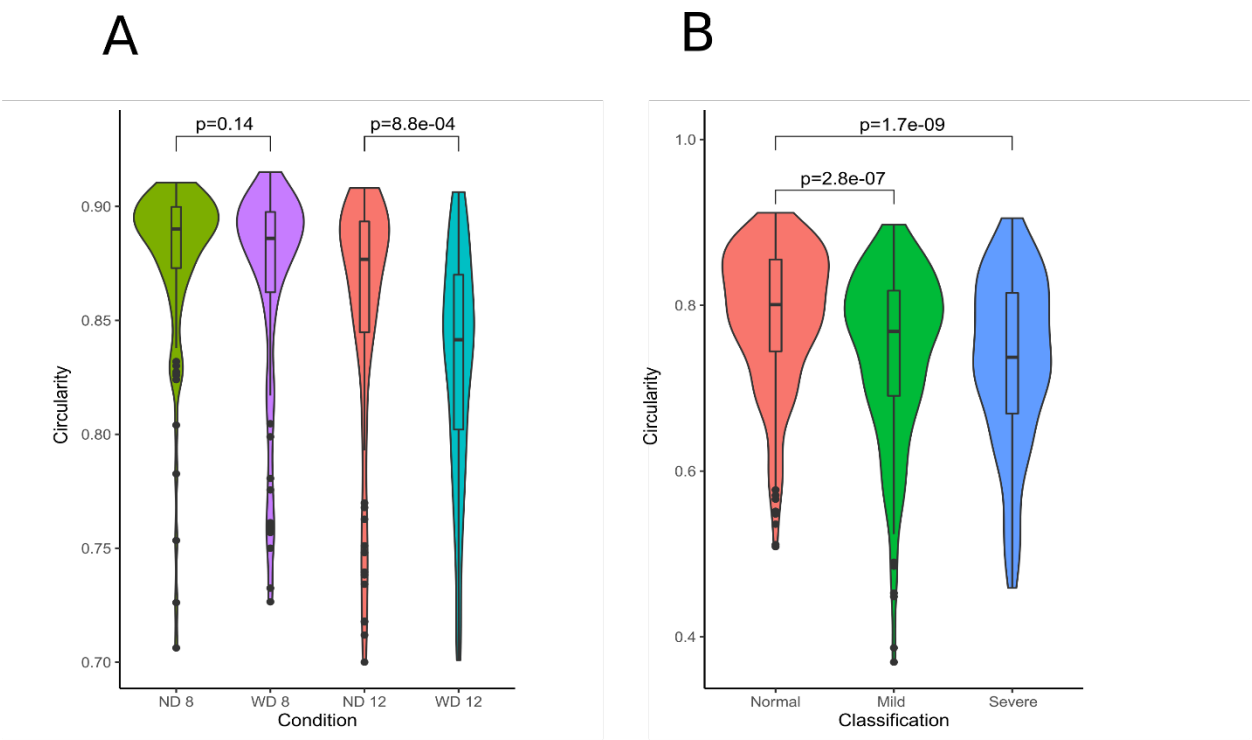

Figure S1 Quantification of nuclear morphology indicates changes in response to western diet. (**A**) Differences in circularity based on DAPI nuclear staining of FFPE liver sections from mice on normal diet (ND) and western diet (WD) at both 8 and 12 weeks. Nuclei in mice on WD are significantly less circular in shape at 12 weeks (WD 12). **(B)** Differences in circularity based on DAPI nuclear staining of frozen liver sections from patients with normal and fatty livers classified by severity (mild and severe). Nuclear circularity is decreased significantly in NAFLD patients with both mild and severe steatosis.

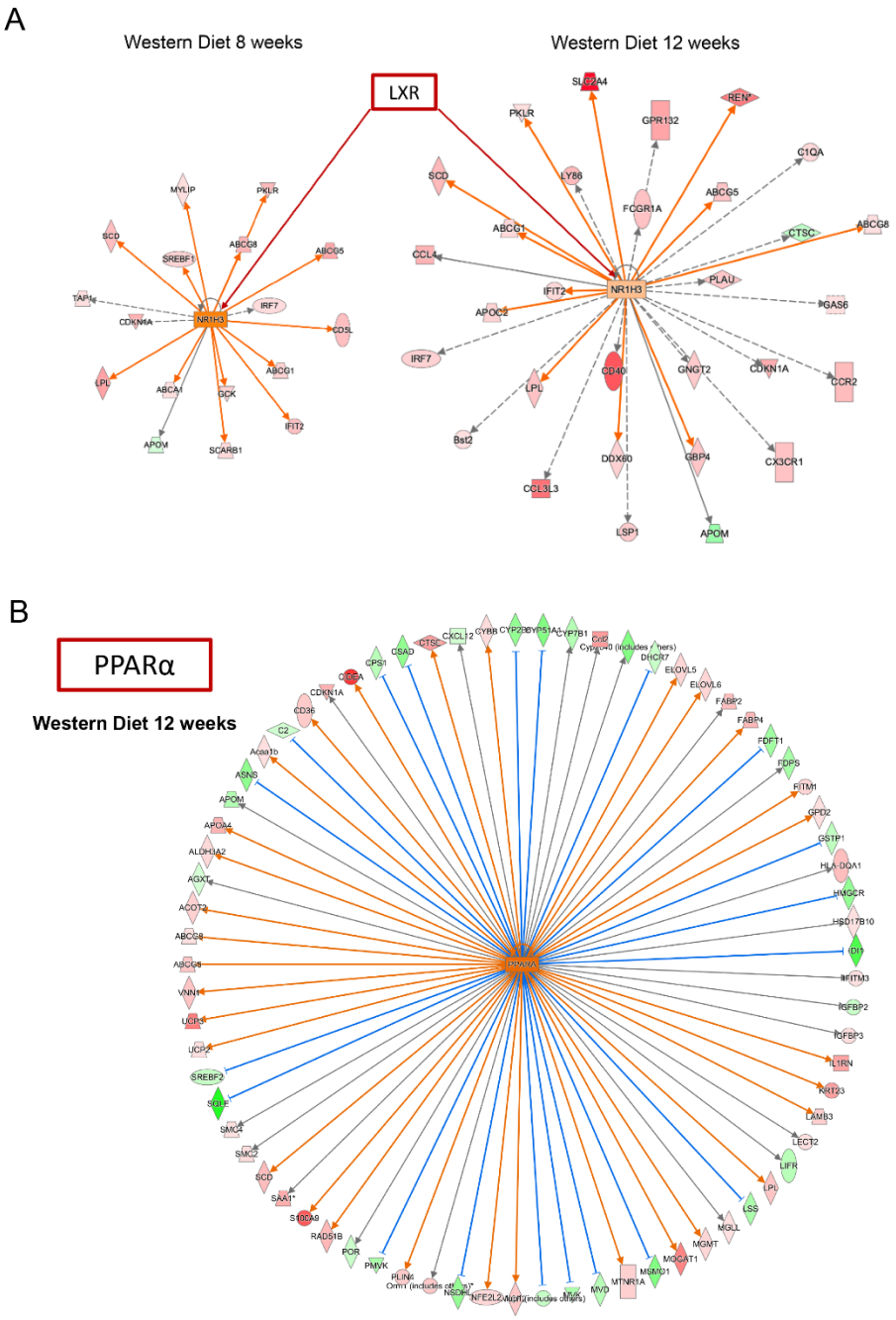

Figure S2 Nuclear receptor networks activated in mice on Western diet

(A) IPA network analysis of differentially expressed genes on Western diet shows that LXR is only partially activated in WD8 **(**left panel). Changes at the nuclear lamina associated with de-repression of additional LXR targets leads to full activation of LXR-dependent gene expression in WD12 (right panel).

(**B**) IPA network analysis identifies a PPARα-dependent network of 66 genes at WD12.

(upregulated genes in red, downregulated genes in green, blue line represents activation, orange line repression, and gray line the association with expression change).

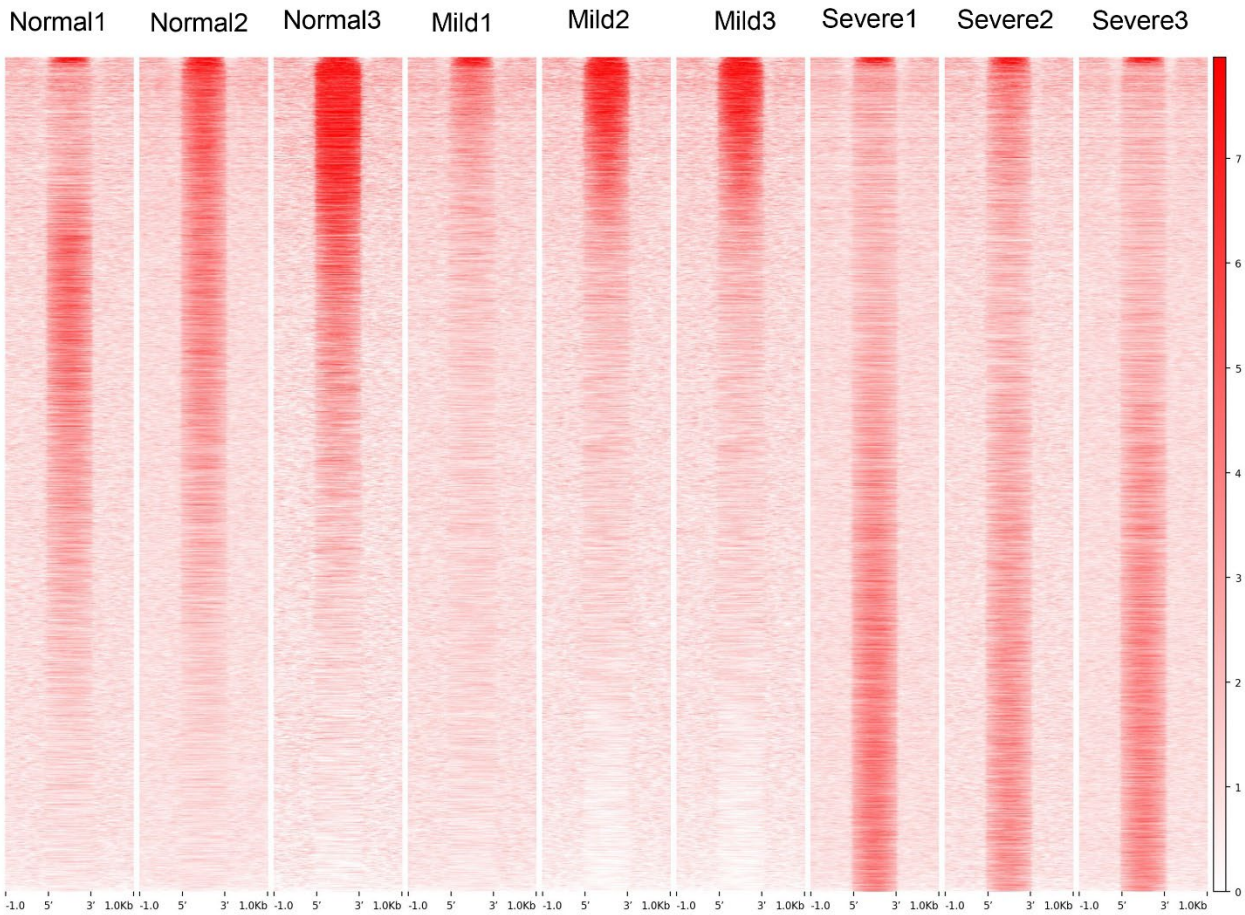

Figure S3 FOXA2 binding in NAFLD for individual patient

FOXA2 occupancy in each patient (3 Normal individuals, 3 patients with mild steatosis, 3 patients with severe steatosis), Merged signal for 3 patients in each category is shown in Figure 6A. FOXA2 binding is redistributed in patients with severe steatosis (last 3 columns).