Supplementary Figure 1. (A) Full Western Blot of Con and LRKO mice fed normal chow. **(B)** Full Western Blot of Con and LRKO mice fed HF/HS diet. For both panels, area of immunoreactive RBP4 in serum and human RBP4 control lane corresponding to Fig. 2 image are outlined.



A. Serum RBP4 CON CHOW and KO CHOW

B. Serum RBP4 CON HFD and KO HFD



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Supplementary Figure 2. (A) Intraperitoneal (IP) insulin tolerance test (1U/kg regular human insulin) of LRKO and littermate Control (CON) mice fed normal chow or HF/HS diets. **P*<0.05 for control and LRKO mice on normal chow vs HF/HS diet as calculated as area over the curve (AOC); n=6 male mice per group. (B) IP glucose tolerance test (2 gm/kg) of same groups. Data from these studies was used to generate area over the curve (AOC) and area under the curve (AUC) data shown in Table 1.



Supplementary Figure 3. Western blot of RBP4 precipitated from culture media conditioned by explants from LRKO or littermate Control mice, as described in Materials and Methods A single ~21 kDa band (Input, Lanes 1 and 2) was depleted from the media (Unbound, Lanes 3 and 4) and recovered as bound immunoprecipitate (IP, Lanes 5 and 6); purified human RBP4 is shown as positive control for Western blotting.



ADIPOSE EXPLANT RBP4 IP

Supplementary Figure 4. Western blotting of serum TTR in LRKO or littermate Control (CON) fed chow or high fat diet. Serum TTR concentrations increased in some mice with high fat feeding, but did not differ between genotypes.

Western blotting of transthyretin in serum



Supplementary Figure 5. Adipose tissue mRNA was analyzed by qRT-PCR for **(A)** expression of high affinity RBP4 receptors, STRA6 and STRA6L, retinoic acid receptor beta (RARB), cellular retinol binding protein (CRBP) and cytochrome p450 26a1 (CYP26); **(B)** expression of TNF alpha (TNFa), monocyte chemoattractant protein-1 (MCP1), and macrophage markers CD68 and F4/80.



A. Adipose Tissue Retinoid Receptor mRNA

B. Adipose Tissue Inflammation Marker mRNA



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