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**Supplementary Figure 1. IGFIR/IR tissue-specific deletion in DKO versus control mice. A:** IR and IGFIR protein expression in liver, gastrocnemius, heart, iWAT and iBAT from 3-month-old WT (n=6) and DKO (n=6). iBAT quantification was represented. **B:** PCR analysis of iBAT cDNA showed exon 3 and 4 deletion in DKO mice. Results were represented as meanSEM. Statistical significance was assessed by two-tailed Student t test. \*\*\* P 0.001 between WT and DKO groups.

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| --- | --- | --- | --- | --- |
| **Metabolic and endrocrine status of control and BATIGFIRDKO mice** | | | | |
|  | WT 3m | DKO 3m | WT HFD | DKO HFD |
| T3  (ng/ml) | 0.62±0.01  (n=11) | 0.68±0.02  (n=8) | 0.55±0.01  (n=4) | 0.47±0.03 i  (n=6) |
| IGF-1  (ng/ml) | 133.42±10.47  (n=11) | 272.75±18.79 a  (n=6) | 251.75±24.92  (n=4) | 356.62±48.48 c, h  (n=3) |
| BMP7  (pg/ml) | 1.32±0.10  (n=13) | 1.49±0.09  (n=12) | 2.17±0.28  (n=7) | 2.08±0.23 g  (n=4) |
| Insulin  (ng/ml) | 0.69±0.05  (n=10) | 0.78±0.12  (n=9) | 0.53±0.19  (n=4) | 4.77±1.52 c, i  (n=4) |
| Glucose  (mg/dl) | 145.47±4.28  (n=19) | 149.21±4.81  (n=19) | 149.66±7.29  (n=6) | 141±4.38  (n=10) |
| TG  (mg/dl) | 30.58±2.79  (n=7) | 80.75±7.94 c  (n=6) | 41.26±4.35  (n=5) | 88.94±8.16 c  (n=4) |
| Cholesterol  (mg/dl) | 104.31±9.83  (n=8) | 102.80±5.58  (n=8) | 141.84±14.45  (n=8) | 135.06±8.23  (n=6) |
| Leptin  (ng/ml) | 3.17±0.43  (n=8) | 4.35±0.58  (n=8) | 25.97±1.59 f  (n=9) | 27.52±3.46 i  (n=9) |
| Adiponectin  (ng/ml) | 17.29±0.37  (n=12) | 16.83±0.33  (n=12) | 33.01±1.30 f  (n=8) | 31.37±1.09 i  (n=8) |
| TNF-α  (pg/ml) | 4.26±0.38  (n=11) | 4.10±0.34  (n=10) | 3.57±0.39  (n=4) | 3.97±0.31  (n=5) |

**Supplementary Table 1. Metabolic and endocrine status at 3 months or upon excess energy exposure in DKO versus control mice.** Changes in fed plasma levels of endocrine signals such as IGFI, T3, BMP-7, insulin, leptin, adiponectin, and TNF-α and metabolites such as glucose or triglycerides are shown comparing WT and DKO mice fed with standard or high fat diet. Results were represented as meanSEM. Statistical significance assessed by one-way ANOVA followed by the Tukey test. a P< 0.05, b P<0.01, c P< 0.001 between WT and DKO or WT HFD and DKO HFD; d P< 0.05 , e P< 0.01, f P< 0.001 between WT and WT HFD; g P< 0.05 , h  P< 0.01, i P< 0.001 between DKO and DKO HFD.