



Supplementary Table S1. The antibodies for Western blot.

| Name | Company | Product Number | Source | MW (kDa) | Dilution |
|----------------|----------------|----------------|--------|----------|----------|
| GAPDH | proteintech | 60004-1-Ig | Mouse | 36 | 1:5000 |
| AMPKa | Cell Signaling | #2793 | Mouse | 62 | 1:1000 |
| p-AMPKa | Cell Signaling | #2535 | Rabbit | 62 | 1:1000 |
| mTOR | Cell Signaling | #2983 | Rabbit | 286 | 1:1000 |
| p-mTOR | Cell Signaling | #5536 | Rabbit | 286 | 1:1000 |
| IR | Cell Signaling | #3025 | Rabbit | 95 | 1:1000 |
| PI3K | Cell Signaling | #4249 | Rabbit | 110 | 1:1000 |
| ATK | Cell Signaling | #4685 | Rabbit | 60 | 1:1000 |
| P-AKT | Cell Signaling | #4060 | Rabbit | 60 | 1:1000 |
| GSK3 β | proteintech | #12456 | Rabbit | 46 | 1:1000 |
| p-GSK3 β | Cell Signaling | #5558 | Rabbit | 46 | 1:1000 |
| FBXO2 | proteintech | 14590-1-AP | Rabbit | 40 | 1:1000 |

glyceraldehyde-GAPDH, glyceraldehyde-3-phosphate dehydrogenase; AMPa, AMP-activated protein kinase alpha subunit; m-TOR, mechanistic target of rapamycin kinase; IR, insulin receptor; PI3K, phosphatidylinositol 3-kinase; AKT, Akt kinase; GSK3 β , glycogen synthase kinase 3 beta; FBXO2, F-box protein 2. “p”: Phospho-.

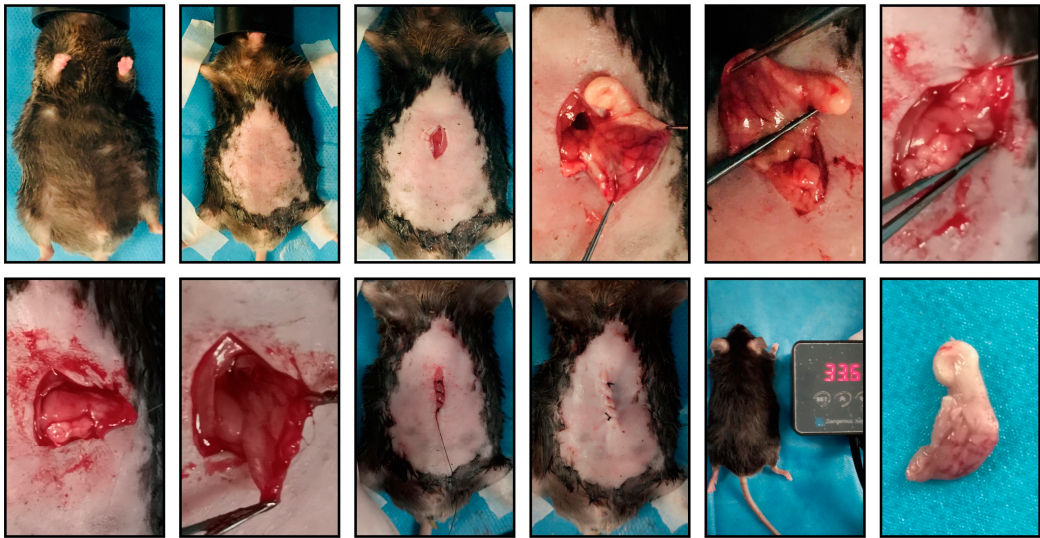
Supplementary Table S2. The primer sequences for Q-PCR.

| Gene name | Species | sequences | |
|-----------|---------|----------------|----------------------------|
| GAPDH | Human | Forward Primer | GGAGCGAGATCCCTCCAAAAT |
| | | Reverse Primer | GGCTGTTGTCATACTTCTCATGG |
| FBXO2 | Human | Forward Primer | GTGTCGCAAAGCACAGGTC |
| | | Reverse Primer | CGGACAGTAGCTTAACGGTGAG |
| Gapdh | Mouse | Forward Primer | ACAAGCTCACGTACTCCACTG |
| | | Reverse Primer | TCCTCCATAGTAAGGCCACATC |
| Fbxo2 | Mouse | Forward Primer | GGTTCCGCTCAATGGTATCAA |
| | | Reverse Primer | TGCCCTGGTACTTCCTATCTTC |
| Fasn | Mouse | Forward Primer | GGAGGTGGTGATAGCCGGTAT |
| | | Reverse Primer | TGGGTAATCCATAGAGCCCAG |
| Srebp1 | Mouse | Forward Primer | TGACCCGGCTATTCCGTGA |
| | | Reverse Primer | CTGGGCTGAGCAATACAGTTC |
| Acly | Mouse | Forward Primer | ACCCCTTCACTGGGGATCACA |
| | | Reverse Primer | GACAGGGATCAGGATTTCCTTG |
| Dgat1 | Mouse | Forward Primer | TCCGTCCAGGGTGTTAGTG |
| | | Reverse Primer | TGAACAAAGAATCTTGCAGACGA |
| Pparg | Mouse | Forward Primer | TCGCTGATGCACTGCCTATG |
| | | Reverse Primer | GAGAGGTCCACAGAGCTGATT |
| Apoa1 | Mouse | Forward Primer | GGCACGTATGGCAGCAAGAT |
| | | Reverse Primer | CCAAGGAGGAGGATTCAAACCTG |
| Apoae | Mouse | Forward Primer | CTGACAGGATGCCTAGCCG |
| | | Reverse Primer | CGCAGGTAATCCCAGAAGC |
| Apoab | Mouse | Forward Primer | AAGCACCTCCGAAAGTACGTG |
| | | Reverse Primer | CT CCAGCT CTACCTTAuAGTT GA |
| Cd36 | Mouse | Forward Primer | ATGGGCTGTGATCGGAACTG |
| | | Reverse Primer | GTCTTCCCAATAAGCATGTCTCC |
| Fabp1 | Mouse | Forward Primer | ATGAACCTTCTCCGGCAAGTACC |
| | | Reverse Primer | CTGACACCCCCTTGATGTCC |
| Foxo1 | Mouse | Forward Primer | CCCAGGCCGGAGTTTAACC |
| | | Reverse Primer | GTTGCTCATAAAGTCGGTGCT |
| Irs1 | Mouse | Forward Primer | CGATGGCTTCTCAGACGTG |
| | | Reverse Primer | CAGCCCCTTGTGTGATGTTG |

| | | | |
|------|-------|----------------|-------------------------|
| Irs2 | Mouse | Forward Primer | CTGCGTCCTCTCCCAAAGTG |
| | | Reverse Primer | GGGGTCATGGGCATGTAGC |
| P6gc | Mouse | Forward Primer | CGACTCGCTATCTCCAAGTGA |
| | | Reverse Primer | GTTGAACCAGTCTCCGACCA |
| Pck1 | Mouse | Forward Primer | CTGCATAACGGTCTGGACTTC |
| | | Forward Primer | CAGCAACTGCCCCGTACTCC |
| Fbp1 | Mouse | Forward Primer | TATGGTGGAAAGGGACGGGAA |
| | | Reverse Primer | CCTCTGGTGATACTCAAGGATGG |

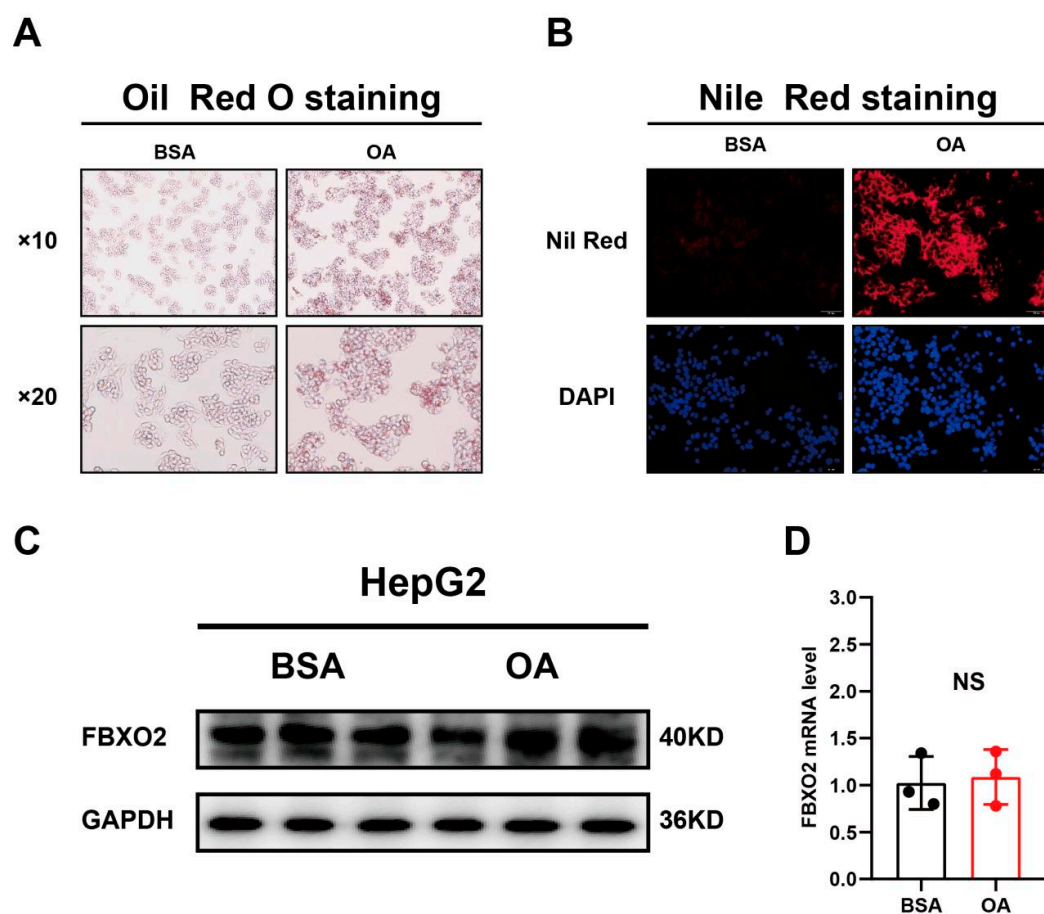
GAPDH, glyceraldehyde-3-phosphate dehydrogenase; FBXO2, F-box protein 2; Fasn, fatty acid syn-
thase; Dgat1, diacylglycerol O-acyltransferase 1; Acly, ATP citrate lyase; Srebp1, sterol regulatory
element binding protein 1; Pparg, Peroxisome proliferator-activated receptor gamma; Apoa1,
apolipoprotein A1; Apob, apolipoprotein B; Apoe, apolipoprotein E; Cd36, CD36 molecule; Fbp1,
fatty acid binding protein 1; Foxo1, forkhead box O1; Irs, insulin receptor substrate; G6pc, glucose-
6-phosphatase, catalytic; Pck1, phosphoenolpyruvate carboxykinase 1; Fbp1, fructose-bisphospha-
tase 1.

Supplementary Figure S1



Supplementary Figure S1. Details of bariatric surgery operations.

Supplementary Figure S2



Supplementary Figure S2. FBXO2 expression was not affected by circulating fatty acid concentration. (A) Oil Red O staining and (B) Nil Red staining of HepG2 cells treated with odium oleate. (Scale bar, 10×, 200μm; 20×, 100 μm). (C) Western blot result and PCR result (D) of protein and relative mRNA levels of FBXO2 in HepG2 cells in each group (n=3).