Electronic Supplementary Material (ESI) for Food & Function.

Supplementary Table and Figure

Supplementary Table 1. *Composition of diets fed to mice*

Ingredient	High-Fat Diet
Casein	23.31
L-cystein	0.35
Corn starch	8.48
Maltodextrin	11.65
Sucrose	20.14
Cellulose	5.83
Yolk powder	10
Soybean oil	2.91
Lard	10
Cholesterol	0.5
Cholate	0.5
Mineral Mix	1.16
Phosphate dicalcium	1.51
Carbonate calcium	0.64
Potassium citrate, 1 H2O	1.92
Vitamin Mix	1.16
Choline bitartrate	0.23
Total	99.97

Supplementary Table 2. Primer sequence used in RT-PCR Primer sequence

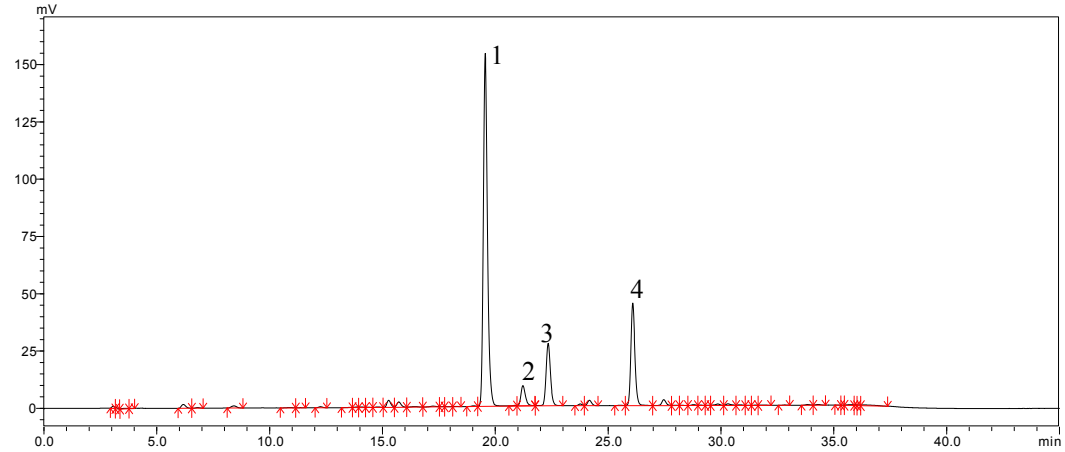
Gene	Sense primer	Antiprimer(5’→3’)
Aqp1	CATTGGCTTGTCTGTGGC	TTTGAGAAGTTGCGGGTG
Dcn	CGCATCTCAGACACCAAC	AAGGGAGGCAGAAGTCAT
Ugt2b	TGGCATTCCTCTGTTTGG	GGGCTTCATAGGCTGGTC
Cxcl13	ATTCTGGAGACCCATTACA	AACCATCTGGCAGTAGGA
Ppp1r3c	GTCTCAGCGTCAAGCAGG	AAGGTCCAAGAGGTCAAACT
Gck	GTGGCAATGGTGAACGAC	CCACTTGTGACACGAAACG
Lpin2	AAGACAAGATGCCGAAGA	GAGAATCTGTCCCAAAGC
Adh1	TCCCTGTTCACGCCTCTT	CCACCGCTATGTCATCTACC
Sult1e1	GATGTCGTCGTTTCTTAT	ATTCTTACTCTTCTCCCAC
Ccnb2	GCAAACAGCCGAAACCTA	GAAGCCTAAACTTGGAATGG
Ccna2	TTAGGGAAATGGAGGTTA	TAGTTCACAGCCAAATGC
Rrm2	TTGAGGAAGAGCCGTTAC	CTAAATCGCTCCACCAAG
Cpa1	GAAGCAGTCTGTGGCAATG	ATCCAGCGTATGATAGGTG
GADPH	GCAAGTTCAACGGCACAG	GCCAGTAGACTCCACGACAT

Supplementary Table 3. Differently expressed genes in liver and epididymal adipose tissues

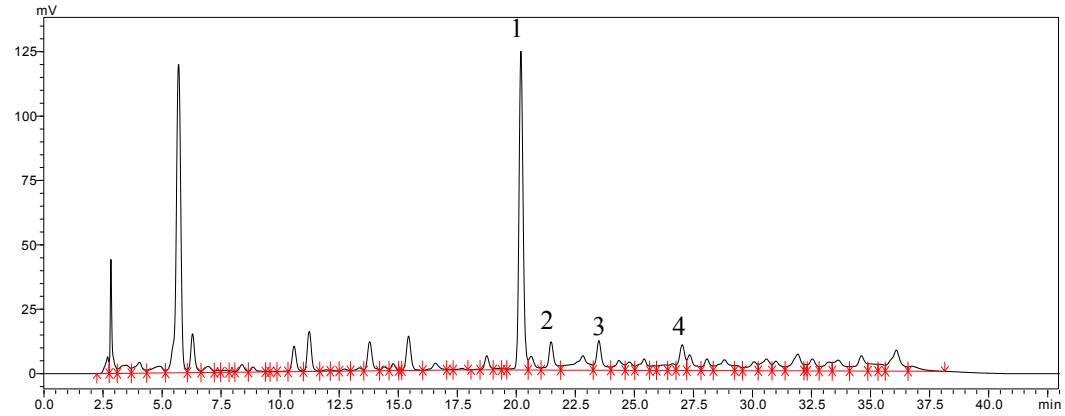
	Accession No.	Gene
Up-regulated	AA891661	Aqp1: aquaporin 1
	BM390253	Dcn: decorin
	AA858993	Ugt2b: UDP glycosyltransferase 2 family, polypeptide B
	BM390827	Ppp1r3c: protein phosphatase 1, regulatory (inhibitor) subunit 3C
	NM_012565	Gck: glucokinase
	NM_130780	Adh1: alcohol dehydrogenase 1 (class I)
	NM_012883	Sult1e1:sulfotransferase family 1E, estrogen-preferring, member 1
	NM_016998	Cpa1: carboxypeptidase A1
Down-regulated	AA892854	Cxcl13: chemokine (C-X-C motif) ligand 13
	BE096055	Lpin2: lipin 2
	AW253821	Ccnb2: cyclin B2
	AA998516	Ccna2: cyclin A2
	BG379338	Rrm2: ribonucleotide reductase M2

Supplementary Figure 1.

A

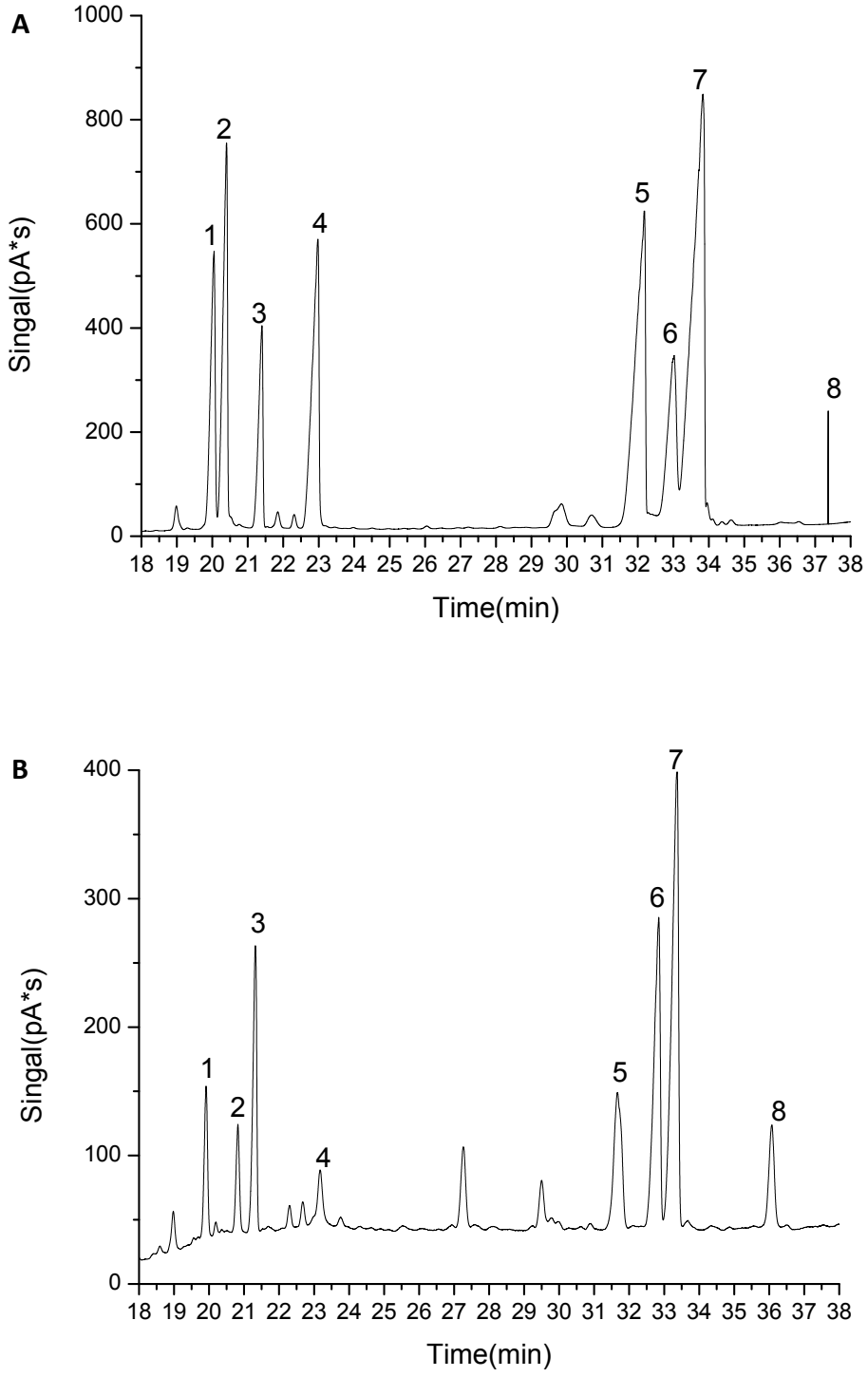


B



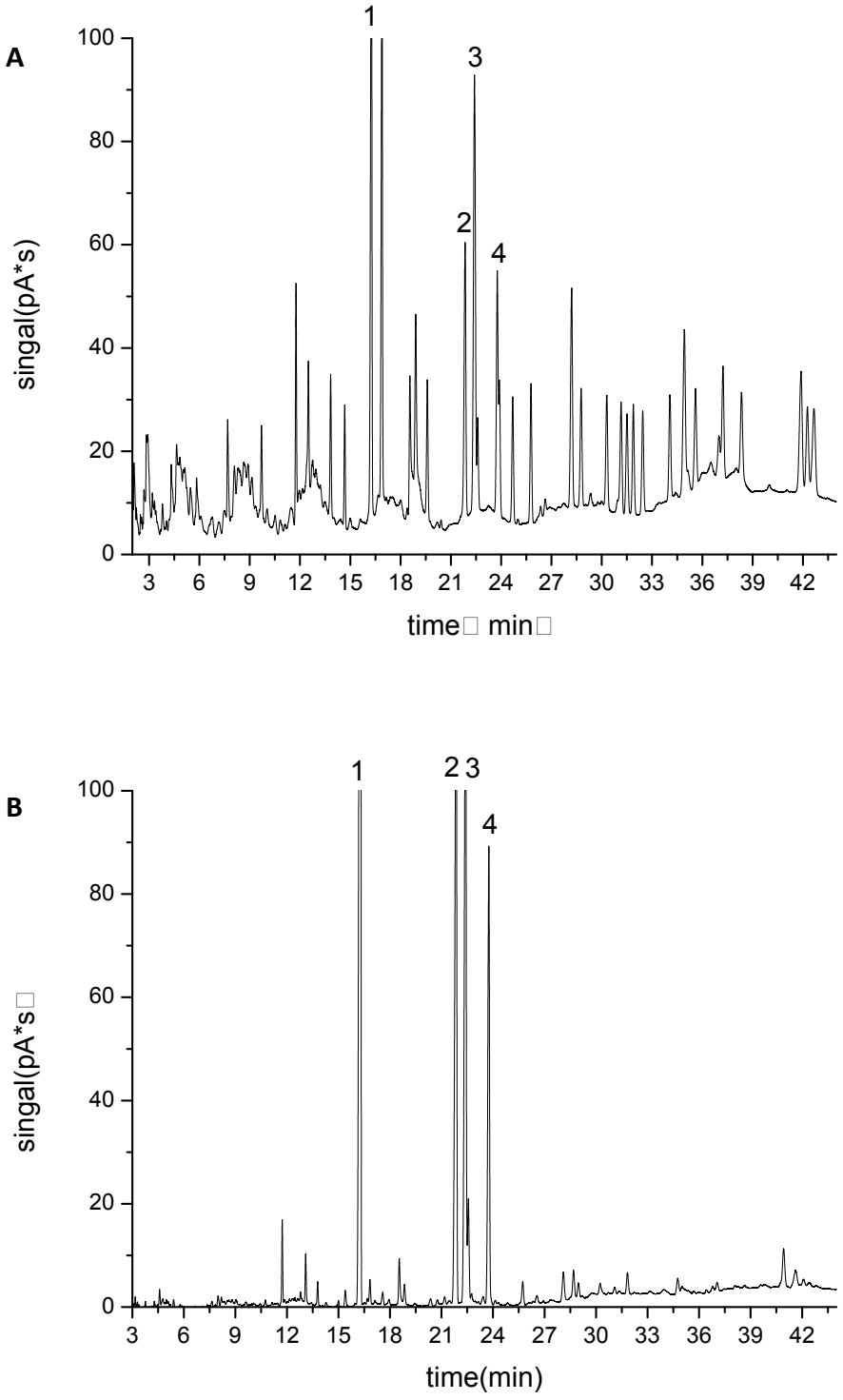
Supplementary Figure 1.HPLC Chromatogram of tea polyphenols standard substance (A), black tea polyphenols extractive (B). Peak 1 represents EGC, peak 2 represents EC, peak 3 represents EGCG and peak 4 represents ECG.

Supplementary Figure 2.



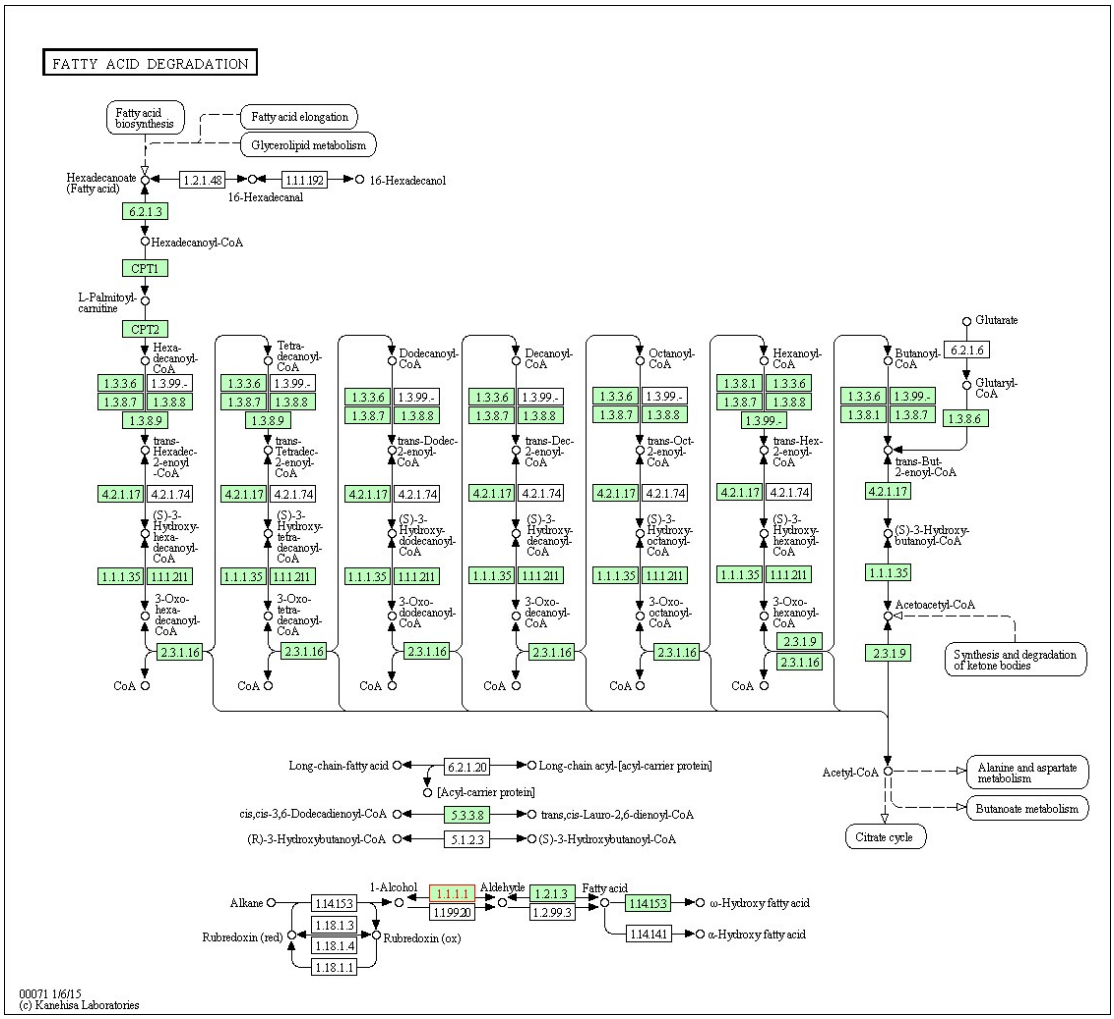
Supplementary Figure 2. GC Chromatogram of monosaccharide standard substance (A), black tea polysaccharide extractive (B). Peak 1 represents Rhammmose, peak 2 represents Fucose, peak 3 represents Arabinose, peak 4 represents Xylose, peak 5 represents Mannose, peak 6 represents Galactose, peak 7 represents Galactose and peak 8 represents Inositol.

Supplementary Figure 3.



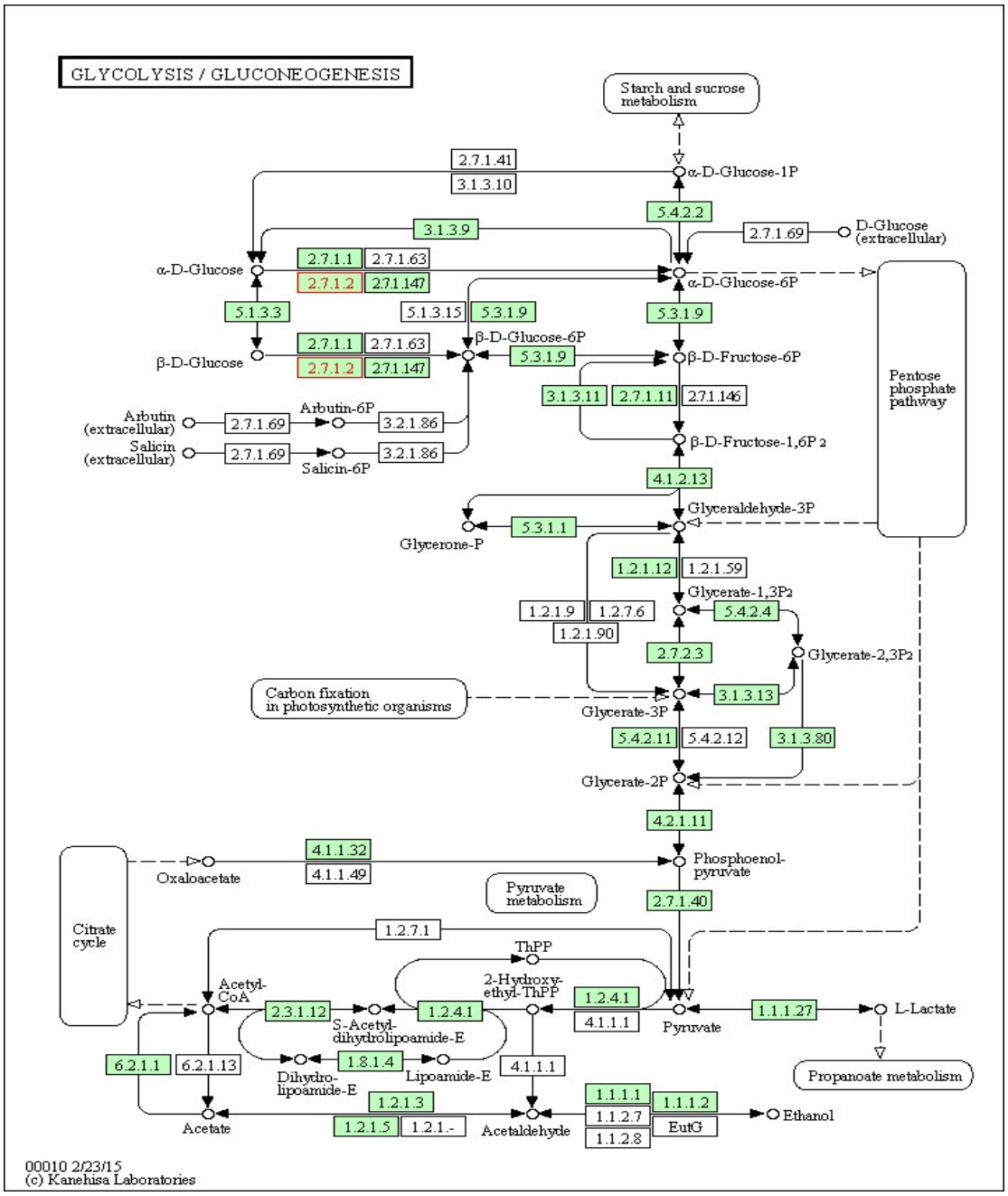
Supplementary Figure 3. GC Chromatogram of fatty acid standard substance (A), SD rats fecal lipids (B). Peak 1 represents palmitic acid, peak 2 represents stearic acid, peak 3 represents oleic acid, peak 4 represents linoleic acid.

Supplementary Figure 4. Fatty acid degradation pathway



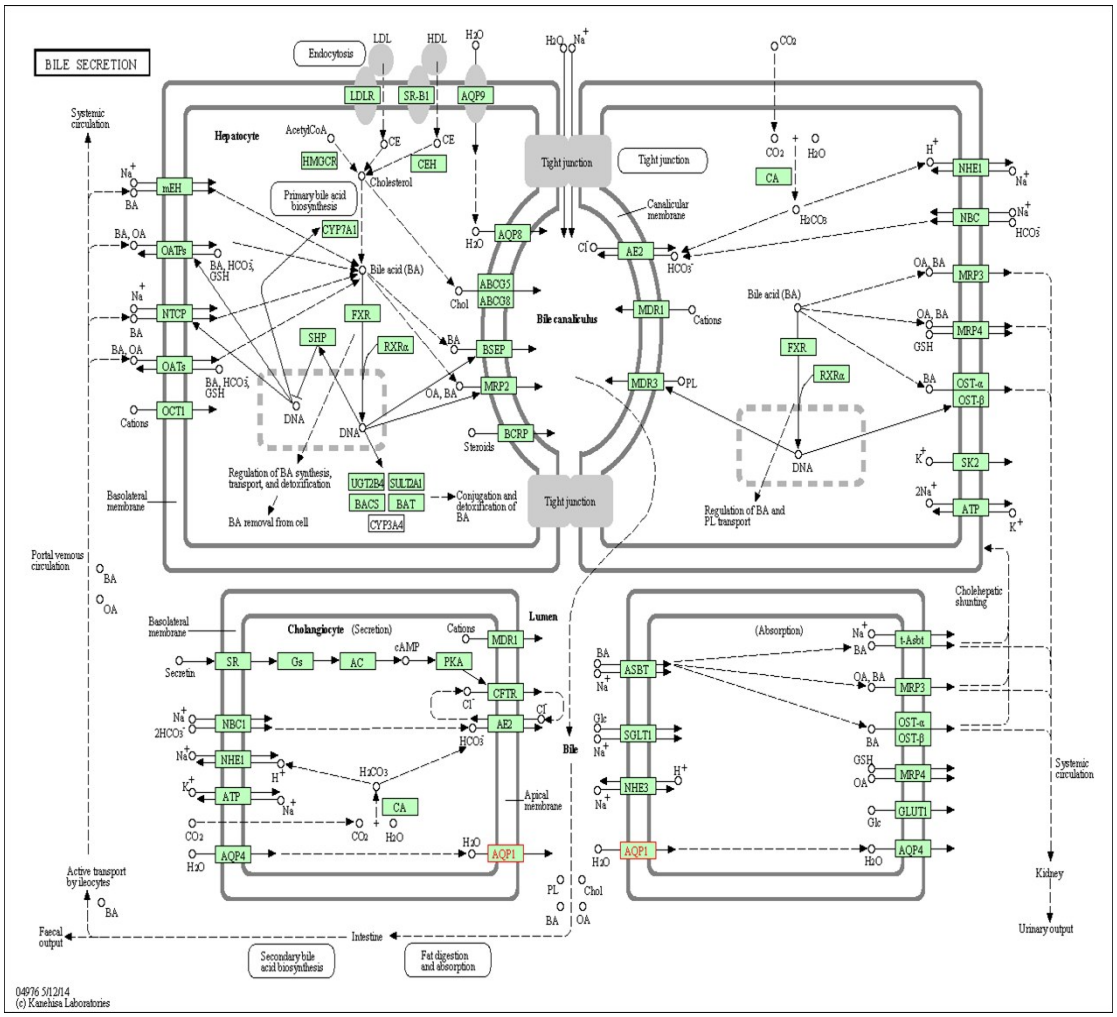
Supplementary Figure 4. Fatty acid degradation pathway

Supplementary Figure 5.



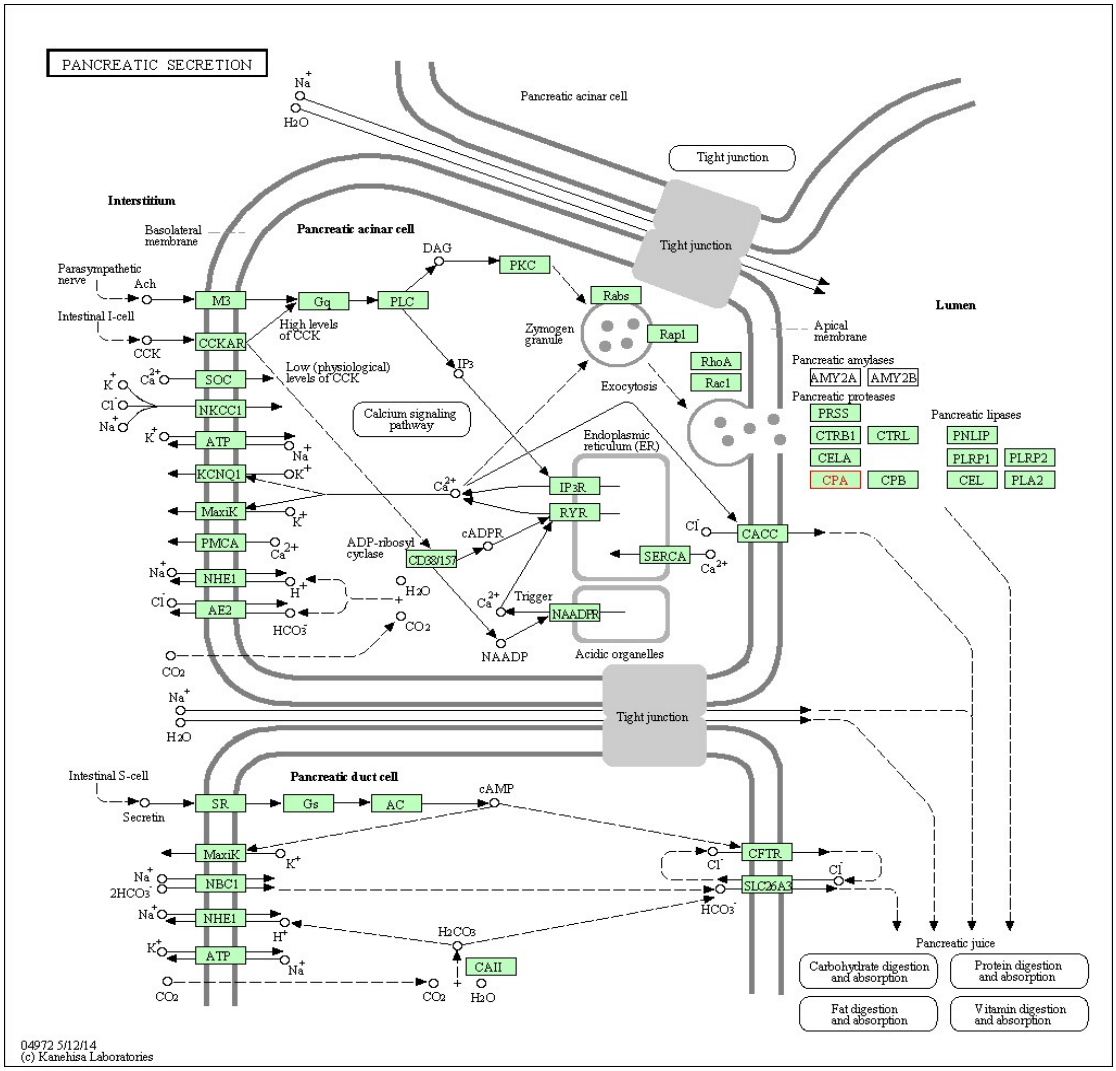
Supplementary Figure 5. Glucolysis/Gluconeogenesis pathway

Supplementary Figure 6.



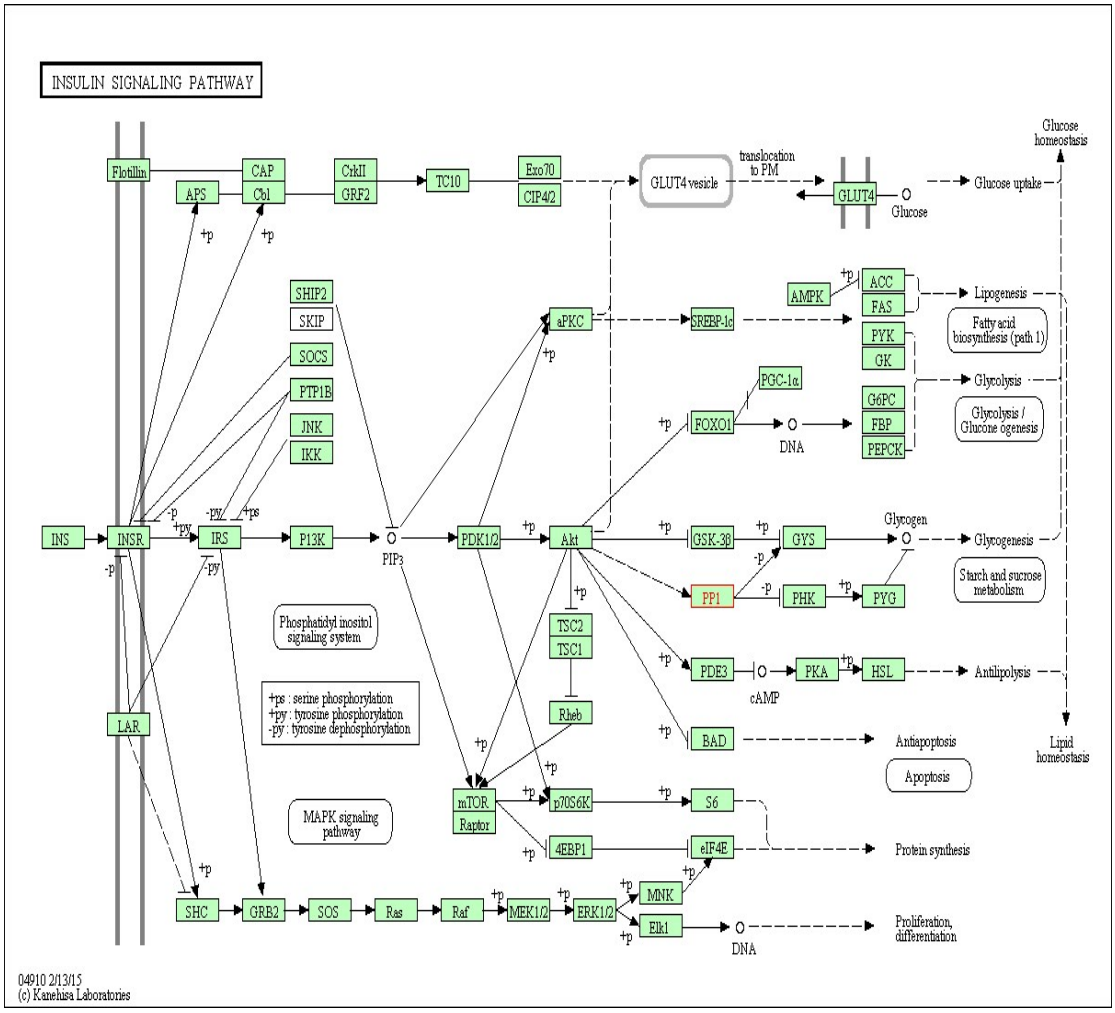
Supplementary Figure 6. Bile secretion pathway

Supplementary Figure 7.



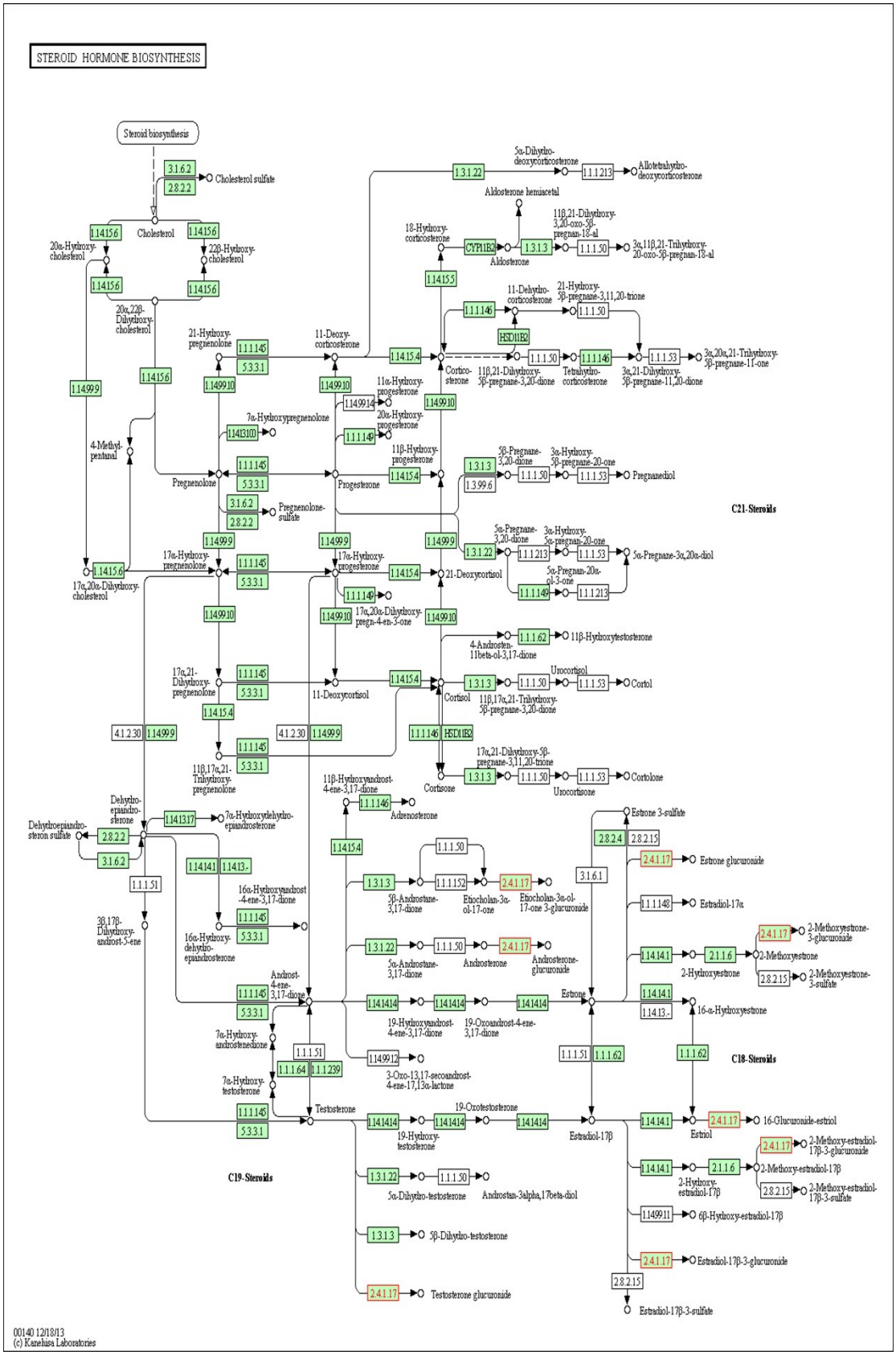
Supplementary Figure 7. Pancreatic secretion pathway

Supplementary Figure 8. Insulin signaling pathway



Supplementary Figure 8. Insulin signaling pathway

Supplementary Figure 9.



Supplementary Figure 9. Steroid hormone biosynthesis pathway