

Supplemental Table 2. Biological and toxicological functions of hepatic transcripts of significant differential expression by diet ($Q < 0.05$, $n = 24$ microarrays). Livers were collected from randomly selected PyMT negative, non-tumor bearing- F2 female sib-pairs fed opposing diets ($n = 12$ mice fed HFD, $n = 12$ mice fed MCD). Annotation was performed with Ingenuity Pathway Analysis Knowledge Base.

*Categories of biological functions as defined by Ingenuity Pathway Analysis Knowledge Base

†P-value describing the probability that the molecules of Supplemental Table 1 associate with a biological function category due to chance

	A	B
1	Hepatic biological functions (IPAKB)	
2	Category*	P-value†
3	Lipid Metabolism	1.12E-05-3.2E-02
4	Small Molecule Biochemistry	1.12E-05-3.2E-02
5	Nucleic Acid Metabolism	3.79E-05-3.2E-02
6	Cell Death	1.93E-04-3.2E-02
7	Embryonic Development	1.93E-04-3.2E-02
8	Carbohydrate Metabolism	3.84E-04-3.2E-02
9	Molecular Transport	6.37E-04-3.2E-02
10	Endocrine System Development and Function	1.04E-03-3.2E-02
11	Amino Acid Metabolism	1.32E-03-3.2E-02
12	Cell Cycle	1.32E-03-3.2E-02
13	Drug Metabolism	1.32E-03-3.2E-02
14	Post-Translational Modification	1.32E-03-2.96E-02
15	Cell-To-Cell Signaling and Interaction	2.79E-03-3.2E-02
16	Cellular Assembly and Organization	2.79E-03-3.2E-02
17	Cellular Function and Maintenance	2.79E-03-3.2E-02
18	Endocrine System Disorders	4.05E-03-3.2E-02
19	Cancer	4.77E-03-3.2E-02
20	Reproductive System Disease	4.77E-03-3.2E-02
21	Organ Development	5.37E-03-3.2E-02
22	Respiratory System Development and Function	5.37E-03-5.37E-03
23	Tissue Development	6.13E-03-3.2E-02
24	Cellular Development	6.35E-03-3.2E-02
25	Cellular Growth and Proliferation	6.35E-03-3.2E-02
26	Hematological System Development and Function	6.35E-03-3.2E-02
27	Immune and Lymphatic System Development and Function	6.35E-03-3.2E-02
28	Skeletal and Muscular System Development and Function	6.35E-03-3.2E-02
29	Nervous System Development and Function	7.23E-03-3.2E-02
30	Developmental Disorder	7.64E-03-3.2E-02
31	Neurological Disease	7.64E-03-3.2E-02
32	Cardiovascular Disease	8.09E-03-8.09E-03
33	Cardiovascular System Development and Function	8.09E-03-1.61E-02
34	Cell Morphology	8.09E-03-3.2E-02
35	Cellular Movement	8.09E-03-3.2E-02
36	Cellular Response to Therapeutics	8.09E-03-8.09E-03
37	Connective Tissue Disorders	8.09E-03-1.85E-02
38	DNA Replication, Recombination, and Repair	8.09E-03-2.41E-02
39	Dermatological Diseases and Conditions	8.09E-03-3.2E-02
40	Gastrointestinal Disease	8.09E-03-3.2E-02
41	Genetic Disorder	8.09E-03-3.2E-02
42	Hair and Skin Development and Function	8.09E-03-3.2E-02
43	Hematological Disease	8.09E-03-2.41E-02
44	Immune Response	8.09E-03-1.61E-02
45	Immunological Disease	8.09E-03-3.2E-02
46	Inflammatory Disease	8.09E-03-2.41E-02
47	Organ Morphology	8.09E-03-2.41E-02
48	Organismal Development	8.09E-03-3.2E-02
49	Organismal Injury and Abnormalities	8.09E-03-3.2E-02
50	Protein Trafficking	8.09E-03-8.09E-03
51	Renal and Urological Disease	8.09E-03-3.2E-02
52	Reproductive System Development and Function	8.09E-03-3.2E-02
53	Respiratory Disease	8.09E-03-8.09E-03
54	Skeletal and Muscular Disorders	8.09E-03-1.47E-02
55	Tissue Morphology	8.09E-03-3.2E-02
56	Tumor Morphology	8.09E-03-3.2E-02
57	Connective Tissue Development and Function	9.1E-03-1.61E-02
58	Gene Expression	1.61E-02-2.41E-02

	A	B
2	Category*	P-value†
59	Hepatic System Development and Function	1.61E-02-3.2E-02
60	Hepatic System Disease	1.61E-02-2.62E-02
61	Metabolic Disease	1.61E-02-3.2E-02
62	Viral Function	1.61E-02-1.61E-02
63	Digestive System Development and Function	2.41E-02-3.2E-02
64	Viral Infection	2.41E-02-2.41E-02
65	Vitamin and Mineral Metabolism	2.41E-02-2.41E-02
66	Protein Synthesis	3.2E-02-3.2E-02
67	Visual System Development and Function	3.2E-02-3.2E-02
68	Hepatic toxicological functions (IPAKB)	
69	Category	P-value
70	Liver Hepatomegaly	1.61E-02-1.29E-01
71	Liver Hypertrophy	2.41E-02-2.41E-02
72	Liver Proliferation	2.41E-02-4.66E-01
73	Hepatocellular Carcinoma	2.62E-02-2.62E-02
74	Liver Necrosis/Cell Death	3.54E-02-5.24E-01
75	Renal Damage	6.17E-02-6.17E-02
76	Liver Hyperbilirubinemia	6.29E-02-6.29E-02
77	Cardiac Hypertrophy	7.05E-02-1.73E-01
78	Liver Cirrhosis	9.29E-02-3.4E-01
79	Liver Cholestasis	1.48E-01-4.16E-01
80	Cardiac Stenosis	1.84E-01-1.84E-01
81	Liver Steatosis	2.83E-01-3.61E-01
82	Renal Nephritis	2.95E-01-5.5E-01
83	Cardiac Arteriopathy	4.74E-01-4.74E-01
84	Liver Damage	5E-01-5E-01
85	Cardiac Hemorrhaging	5.46E-01-5.46E-01
86	Heart Failure	1E00-1E00