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Supplemental Material

Adverse Maternal, Fetal, and Postnatal Effects of Hexafluoropropylene Oxide Dimer Acid (GenX) from Oral Gestational Exposure in Sprague-Dawley Rats

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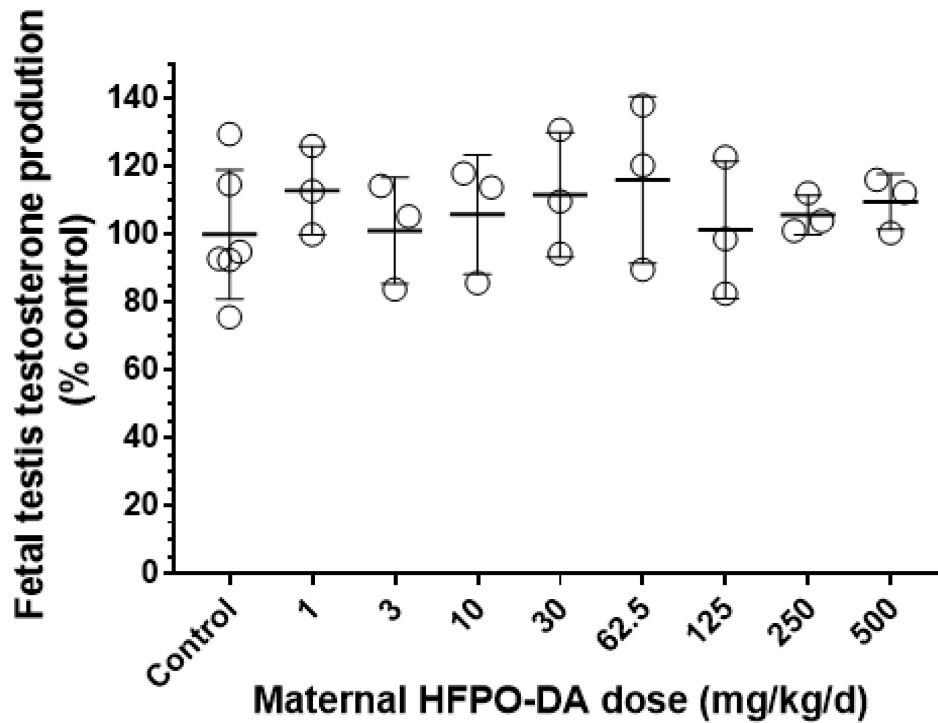


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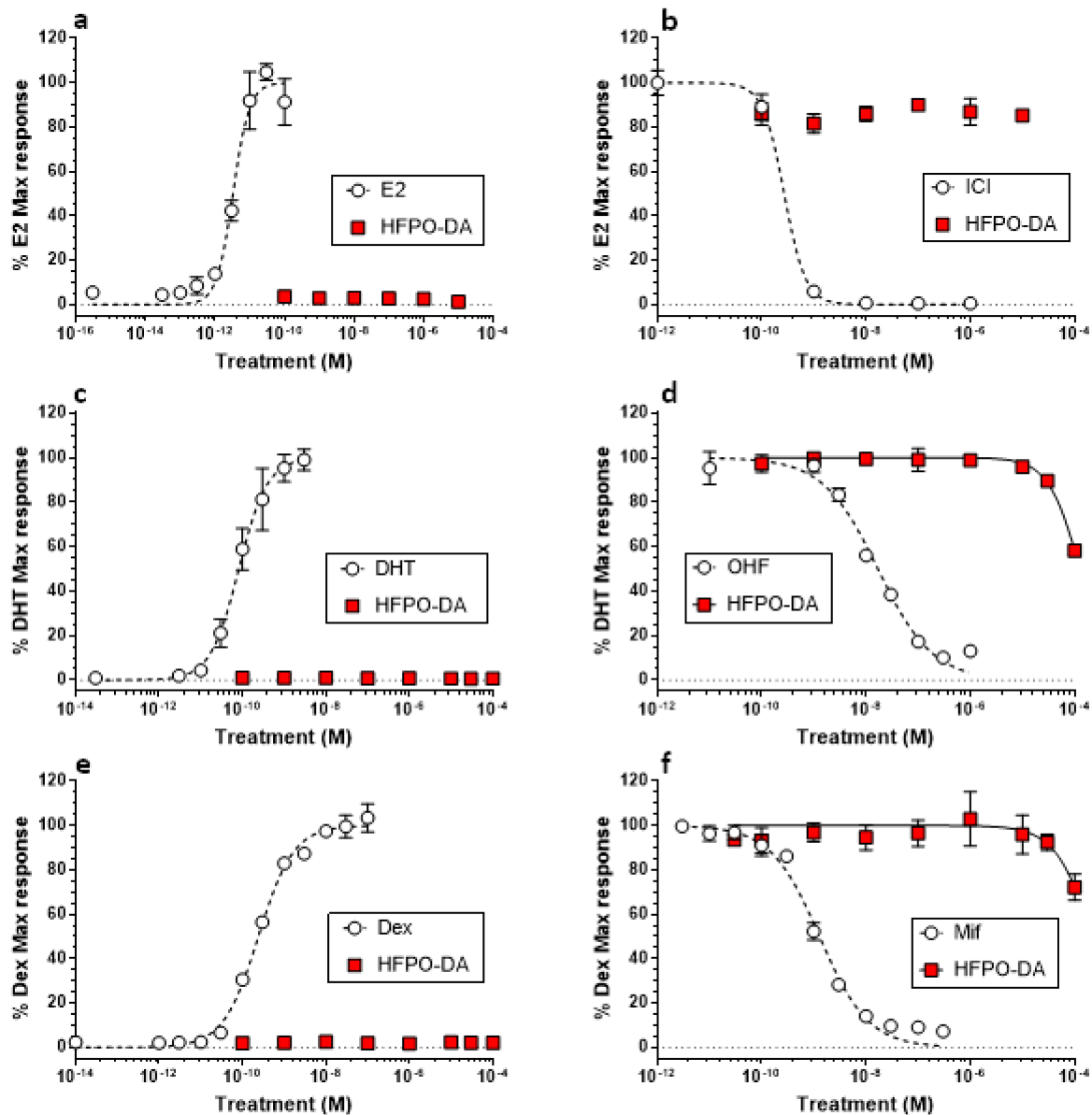


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Table S1. Identification of genes on custom array plate developed to identify genomic biomarkers of phthalated-induced male reproductive developmental toxicity in fetal rat testis.

Symbol	Description	GenBank
Acox1	Acyl-Coenzyme A oxidase 1, palmitoyl	NM_017340
Actb	Actin, beta	NM_031144
Acvr2b	Activin A receptor, type IIB	NM_031554
Adh1	Alcohol dehydrogenase 1 (class I)	NM_019286
Aldh1a1	Aldehyde dehydrogenase 1 family, member A1	NM_022407
Amhr2	Anti-Mullerian hormone receptor, type II	NM_030998
Apoa1	Apolipoprotein A-I	NM_012738
Ar	Androgen receptor	NM_012502
Axin1	Axin 1	NM_024405
Axin2	Axin2	NM_024355
B2m	Beta-2 microglobulin	NM_012512
Cbx2	Chromobox homolog 2 (Pc class homolog, Drosophila)	XM_221185
Cyp11a1	Cytochrome P450, family 11, subfamily a, polypeptide 1	NM_017286
Cyp11b1	Cytochrome P450, subfamily 11B, polypeptide 1	NM_012537
Cyp11b2	Cytochrome P450, subfamily 11B, polypeptide 2	NM_012538
Cyp17a1	Cytochrome P450, family 17, subfamily a, polypeptide 1	NM_012753
Cyp4a1	Cytochrome P450, family 4, subfamily a, polypeptide 1	NM_175837
Dhcr7	7-dehydrocholesterol reductase	NM_022389
Dhh	Desert hedgehog homolog (Drosophila)	XM_343327
Dixdc1	DIX domain containing 1	NM_001037654
Dkk1	Dickkopf homolog 1 (Xenopus laevis)	XM_219804
Dkk3	Dickkopf homolog 3 (Xenopus laevis)	NM_138519
Dmrt1	Doublesex and mab-3 related transcription factor 1	NM_053706
Dmrt2	Doublesex and mab-3 related transcription factor 2	XM_219927
Dvl1	Dishevelled, dsh homolog 1 (Drosophila)	NM_031820
Dvl2	Dishevelled 2, dsh homolog (Drosophila)	XM_239254
Dvl3	Dishevelled, dsh homolog 3 (Drosophila)	XM_221304
Emx2	Empty spiracles homeobox 2	XM_574698
Esr1	Estrogen receptor 1	NM_012689
Esr2	Estrogen receptor 2 (ER beta)	NM_012754
Fabp1	Fatty acid binding protein 1, liver	NM_012556
Fgf8	Fibroblast growth factor 8	NM_133286
Fgf9	Fibroblast growth factor 9	NM_012952
Gata4	GATA binding protein 4	NM_144730
Gusb	Glucuronidase, beta	NM_017015
Hoxa2	Homeo box A2	NM_012581
Hsd17b3	Hydroxysteroid (17-beta) dehydrogenase 3	NM_054007
Hsd3b	3 beta-hydroxysteroid dehydrogenase/delta-5-delta-4 isomerase type II	NM_001042619

Inha	Inhibin alpha	NM_012590
Inhba	Inhibin beta-A	NM_017128
Inhbb	Inhibin beta-B	XM_344130
Insl3	Insulin-like 3	NM_053680
Ldha	Lactate dehydrogenase A	NM_017025
Lhcgr	Luteinizing hormone/choriogonadotropin receptor	NM_012978
Lhx1	LIM homeobox 1	NM_145880
Lhx9	LIM homeobox 9	NM_181367
LOC691504	Similar to Zinc finger protein ZFPM1 (Zinc finger protein multitype 1) (Friend of GATA protein 1) (Friend of GATA-1) (FOG-1)	XR_007127
Mapk3	Mitogen activated protein kinase 3	NM_017347
Nr0b1	Nuclear receptor subfamily 0, group B, member 1	NM_053317
Nr1d1	Nuclear receptor subfamily 1, group D, member 1	NM_145775
Nr3c1	Nuclear receptor subfamily 3, group C, member 1	NM_012576
Nr3c2	Nuclear receptor subfamily 3, group C, member 2	NM_013131
Nr4a2	Nuclear receptor subfamily 4, group A, member 2	NM_019328
Nr5a1	Nuclear receptor subfamily 5, group A, member 1	XM_001054966
Ntf3	Neurotrophin 3	NM_031073
Ntrk3	Neurotrophic tyrosine kinase, receptor, type 3	NM_019248
Pcaf	P300/CBP-associated factor	NM_001024252
Pdgfa	Platelet-derived growth factor alpha polypeptide	NM_012801
Pdgfra	Platelet derived growth factor receptor, alpha polypeptide	XM_214030
Pou5f1	POU class 5 homeobox 1	NM_001009178
Ppara	Peroxisome proliferator activated receptor alpha	NM_013196
Ppard	Peroxisome proliferator-activated receptor delta	NM_013141
Pparg	Peroxisome proliferator-activated receptor gamma	NM_013124
PPC	Positive PCR Control	SA_00103
Ptch1	Patched homolog 1 (Drosophila)	XM_345570
Ptgds2	Prostaglandin D2 synthase 2, hematopoietic	NM_031644
Rara	Retinoic acid receptor, alpha	NM_031528
Rarb	Retinoic acid receptor, beta	XM_223843
Rarg_mapped	Retinoic acid receptor, gamma (mapped)	XM_217064
RGD1563046	Similar to cerberus-like	XR_008686
RGDC	Rat Genomic DNA Contamination	U26919
Rhox10	Reproductive homeobox 10	NM_001037581
Rhox5	Reproductive homeobox 5	NM_022175
RTC	Reverse Transcription Control	SA_00104
Rxra	Retinoid X receptor alpha	NM_012805
Rxrb	Retinoid X receptor beta	NM_206849
Rxrg	Retinoid X receptor gamma	NM_031765
Scarb1	Scavenger receptor class B, member 1	NM_031541
Sfrp1	Secreted frizzled-related protein 1	XM_224987
Sfrp2	Secreted frizzled-related protein 2	XM_227314

Sfrp4	Secreted frizzled-related protein 4	NM_053544
Sfrp5	Secreted frizzled-related protein 5	XM_219887
Smo	Smoothened homolog (Drosophila)	NM_012807
Sox8	SRY (sex determining region Y)-box 8	XM_220283
Sox9	SRY-box containing gene 9	XM_343981
Sra1	Steroid receptor RNA activator 1	NM_183329
Sry	Sex determining region Y	NM_012772
Star	Steroidogenic acute regulatory protein	NM_031558
Tgfb1	Transforming growth factor, beta 1	NM_021578
Tle1	Transducin-like enhancer of split 1 (E(sp1) homolog, Drosophila)	XM_342851
Tle2	Transducin-like enhancer of split 2 (E(sp1) homolog, Drosophila)	NM_001039013
Tspo	Translocator protein	NM_012515
Vdr	Vitamin D (1,25- dihydroxyvitamin D3) receptor	NM_017058
Wnt7a	Wingless-type MMTV integration site family, member 7A	XM_342723
Wt1	Wilms tumor 1	NM_031534
Zfpm2	Zinc finger protein, multitype 2	XM_235253

Table S2. Identification of PPAR pathway genes analyzed in maternal and fetal livers using Qiagen RT² Profiler PCR Array Rat PPAR Targets (Cat no. PARN-149Z)

Symbol	Description	UniGene	GenBank
Acaa2	Acetyl-Coenzyme A acyltransferase 2	Rn.3786	NM_130433
Acadl	Acyl-Coenzyme A dehydrogenase, long-chain	Rn.174	NM_012819
Acadm	Acyl-Coenzyme A dehydrogenase, C-4 to C-12 straight chain	Rn.6302	NM_016986
Acox1	Acyl-Coenzyme A oxidase 1, palmitoyl	Rn.31796	NM_017340
Acox3	Acyl-Coenzyme A oxidase 3, pristanoyl	Rn.10546	NM_053339
Acs11	Acyl-CoA synthetase long-chain family member 1	Rn.6215	NM_012820
Acs13	Acyl-CoA synthetase long-chain family member 3	Rn.54820	NM_057107
Acs14	Acyl-CoA synthetase long-chain family member 4	Rn.87821	NM_053623
Acs15	Acyl-CoA synthetase long-chain family member 5	Rn.105862	NM_053607
Adipoq	Adiponectin, C1Q and collagen domain containing	Rn.24299	NM_144744
Angptl4	Angiopietin-like 4	Rn.119611	NM_199115
Apoa1	Apolipoprotein A-I	Rn.10308	NM_012738
Apoa5	Apolipoprotein A-V	Rn.48763	NM_080576
Apoc3	Apolipoprotein C-III	Rn.195323	NM_012501
Apoe	Apolipoprotein E	Rn.32351	NM_138828
Aqp7	Aquaporin 7	Rn.11111	NM_019157
Cd36	CD36 molecule (thrombospondin receptor)	Rn.102418	NM_031561
Clu	Clusterin	Rn.1780	NM_053021
Cpt1a	Carnitine palmitoyltransferase 1a, liver	Rn.2856	NM_031559
Cpt1b	Carnitine palmitoyltransferase 1b, muscle	Rn.6028	NM_013200
Cpt2	Carnitine palmitoyltransferase 2	Rn.11389	NM_012930
Creb1	CAMP responsive element binding protein 1	Rn.90061	NM_031017
Crebbp	CREB binding protein	Rn.108128	NM_133381
Cyp27a1	Cytochrome P450, family 27, subfamily a, polypeptide 1	Rn.94956	NM_178847
Cyp7a1	Cytochrome P450, family 7, subfamily a, polypeptide 1	Rn.10737	NM_012942
Dgat1	Diacylglycerol O-acyltransferase homolog 1 (mouse)	Rn.252	NM_053437
Ech1	Enoyl coenzyme A hydratase 1, peroxisomal	Rn.6148	NM_022594
Ehhadh	Enoyl-Coenzyme A, hydratase/3-hydroxyacyl Coenzyme A dehydrogenase	Rn.3671	NM_133606
Eln	Elastin	Rn.54384	NM_012722
Ep300	E1A binding protein p300	Rn.12447	XM_576312
Etfdh	Electron-transferring-flavoprotein dehydrogenase	Rn.37277	NM_198742
Fabp1	Fatty acid binding protein 1, liver	Rn.36412	NM_012556
Fabp2	Fatty acid binding protein 2, intestinal	Rn.91358	NM_013068
Fabp3	Fatty acid binding protein 3, muscle and heart	Rn.32566	NM_024162
Fabp4	Fatty acid binding protein 4, adipocyte	Rn.4258	NM_053365
Fabp5	Fatty acid binding protein 5, epidermal	Rn.98269	NM_145878
Fabp6	Fatty acid binding protein 6, ileal	Rn.10008	NM_017098
Fabp7	Fatty acid binding protein 7, brain	Rn.10014	NM_030832
Fads2	Fatty acid desaturase 2	Rn.162483	NM_031344

Fgr	Gardner-Rasheed feline sarcoma viral (v-fgr) oncogene homolog	Rn.11309	NM_024145
Gk	Glycerol kinase	Rn.153497	NM_024381
Hif1a	Hypoxia-inducible factor 1, alpha subunit (basic helix-loop-helix transcription factor)	Rn.10852	NM_024359
Hmgcs2	3-hydroxy-3-methylglutaryl-Coenzyme A synthase 2 (mitochondrial)	Rn.29594	NM_173094
Hspd1	Heat shock protein 1 (chaperonin)	Rn.102058	NM_022229
Ilk	Integrin-linked kinase	Rn.95042	NM_133409
Klf10	Kruppel-like factor 10	Rn.2398	NM_031135
Lpin1	Lipin 1	Rn.214286	NM_001012111
Lpl	Lipoprotein lipase	Rn.3834	NM_012598
Med1	Mediator complex subunit 1	Rn.4262	NM_001134361
Mlycd	Malonyl-CoA decarboxylase	Rn.13468	NM_053477
Mmp9	Matrix metalloproteinase 9	Rn.10209	NM_031055
Ncoa3	Nuclear receptor coactivator 3	Rn.20691	XM_215947
Ncoa6	Nuclear receptor coactivator 6	Rn.9077	XM_342552
Nr1h3	Nuclear receptor subfamily 1, group H, member 3	Rn.11209	NM_031627
Olr1	Oxidized low density lipoprotein (lectin-like) receptor 1	Rn.87449	NM_133306
Pck1	Phosphoenolpyruvate carboxykinase 1 (soluble)	Rn.104376	NM_198780
Pck2	Phosphoenolpyruvate carboxykinase 2 (mitochondrial)	Rn.35508	NM_001108377
Pdpk1	3-phosphoinositide dependent protein kinase-1	Rn.10905	NM_031081
Pltp	Phospholipid transfer protein	Rn.117434	NM_001168543
Ppara	Peroxisome proliferator activated receptor alpha	Rn.9753	NM_013196
Ppard	Peroxisome proliferator-activated receptor delta	Rn.96181	NM_013141
Pparg	Peroxisome proliferator-activated receptor gamma	Rn.23443	NM_013124
Ppargc1a	Peroxisome proliferator-activated receptor gamma, coactivator 1 alpha	Rn.19172	NM_031347
Ppargc1b	Peroxisome proliferator-activated receptor gamma, coactivator 1 beta	Rn.163382	NM_176075
Pprc1	Peroxisome proliferator-activated receptor gamma, coactivator-related 1	Rn.9484	NM_001106363
Pten	Phosphatase and tensin homolog	Rn.22158	NM_031606
Pyv	Peptide YY (mapped)	Rn.13173	NM_001034080
Rxra	Retinoid X receptor alpha	Rn.108206	NM_012805
Rxrb	Retinoid X receptor beta	Rn.49295	NM_206849
Rxrg	Retinoid X receptor gamma	Rn.40816	NM_031765
Scd1	Stearoyl-Coenzyme A desaturase 1	Rn.1023	NM_139192
Sirt1	Sirtuin (silent mating type information regulation 2 homolog) 1 (S. cerevisiae)	Rn.219976	NM_001107627
Slc22a5	Solute carrier family 22 (organic cation/carnitine transporter), member 5	Rn.8844	NM_019269
Slc27a1	Solute carrier family 27 (fatty acid transporter), member 1	Rn.1047	NM_053580
Slc27a2	Solute carrier family 27 (fatty acid transporter), member 2	Rn.3608	NM_031736
Slc27a4	Solute carrier family 27 (fatty acid transporter), member 4	Rn.145068	XM_231115
Slc27a5	Solute carrier family 27 (fatty acid transporter), member 5	Rn.207896	NM_024143
Slc27a6	Solute carrier family 27 (fatty acid transporter), member 6	Rn.53815	NM_001106145
Smardc3	SWI/SNF related, matrix associated, actin dependent regulator of chromatin, subfamily d, member 3	Rn.20043	NM_001011966
Sorbs1	Sorbin and SH3 domain containing 1	Rn.110441	XM_001066536

Src	V-src sarcoma (Schmidt-Ruppin A-2) viral oncogene homolog (avian)	Rn.112600	NM_031977
Tgs1	Trimethylguanosine synthase homolog (<i>S. cerevisiae</i>)	Rn.48378	NM_001107904
Txnip	Thioredoxin interacting protein	Rn.2758	NM_001008767
Ucp1	Uncoupling protein 1 (mitochondrial, proton carrier)	Rn.10281	NM_012682
Actb	Actin, beta	Rn.94978	NM_031144
B2m	Beta-2 microglobulin	Rn.1868	NM_012512
Hprt1	Hypoxanthine phosphoribosyltransferase 1	Rn.47	NM_012583
Ldha	Lactate dehydrogenase A	Rn.107896	NM_017025
Rplp1	Ribosomal protein, large, P1	Rn.973	NM_001007604
RGDC	Rat Genomic DNA Contamination	N/A	U26919
RTC	Reverse Transcription Control	N/A	SA_00104
PPC	Positive PCR Control	N/A	SA_00103

PPAR=peroxisome proliferator activated receptor; PCR=polymerase chain reaction

Table S3. Fetal liver (collected GD18) PPAR gene expression following GD14-18 maternal oral exposure to HFPO-DA.

Gene	HFPO-DA dose (mg/kg/d)								
	0	1	3	10	30	62.5	125	250	500
Acaa2	1.0 ± 0.0 (6)	1.2 ± 0.1 (3)	1.2 ± 0.1 (3)	1.8 ± 0.1 (3)	2.3 ± 0.2 (3)	2.5 ± 0.2 (3)	3.2 ± 0.2 (3)	3.3 ± 0.0 (3)	3.4 ± 0.2 (3)
Acadl	1.0 ± 0.0 (6)	1.0 ± 0.0 (3)	1.1 ± 0.0 (3)	1.3 ± 0.0 (3)	1.4 ± 0.0 (3)	1.5 ± 0.1 (3)	1.9 ± 0.1 (3)	2.0 ± 0.0 (3)	2.2 ± 0.1 (3)
Acadm	1.0 ± 0.0 (6)	1.0 ± 0.1 (3)	1.1 ± 0.1 (3)	1.4 ± 0.0 (3)	1.7 ± 0.0 (3)	1.9 ± 0.0 (3)	2.4 ± 0.1 (3)	2.3 ± 0.1 (3)	2.5 ± 0.2 (3)
Acox1	1.0 ± 0.0 (6)	1.2 ± 0.0 (3)	1.5 ± 0.0 (3)	2.3 ± 0.2 (3)	3.7 ± 0.1 (3)	5.7 ± 0.4 (3)	8.3 ± 0.3 (3)	8.5 ± 0.6 (3)	9.2 ± 0.8 (3)
Acox3	1.0 ± 0.0 (6)	1.1 ± 0.1 (3)	1.3 ± 0.1 (3)	1.1 ± 0.1 (3)	1.2 ± 0.1 (3)	1.0 ± 0.0 (3)	1.2 ± 0.1 (3)	1.0 ± 0.0 (3)	1.1 ± 0.1 (3)
Acs11	1.0 ± 0.0 (6)	1.1 ± 0.0 (3)	1.3 ± 0.1 (3)	1.8 ± 0.1 (3)	2.4 ± 0.0 (3)	2.5 ± 0.1 (3)	2.9 ± 0.0 (3)	2.7 ± 0.1 (3)	2.8 ± 0.2 (3)
Acs13	1.0 ± 0.0 (6)	1.0 ± 0.0 (3)	1.0 ± 0.0 (3)	1.1 ± 0.1 (3)	1.2 ± 0.0 (3)	1.3 ± 0.1 (3)	1.4 ± 0.0 (3)	1.5 ± 0.0 (3)	1.5 ± 0.1 (3)
Acs14	1.0 ± 0.0 (6)	1.0 ± 0.1 (3)	1.0 ± 0.1 (3)	1.2 ± 0.0 (3)	1.5 ± 0.0 (3)	1.6 ± 0.1 (3)	1.7 ± 0.0 (3)	1.7 ± 0.1 (3)	1.7 ± 0.1 (3)
Acs15	1.0 ± 0.0 (6)	0.8 ± 0.0 (3)	0.8 ± 0.1 (3)	0.9 ± 0.0 (3)	0.9 ± 0.1 (3)	0.9 ± 0.1 (3)	1.1 ± 0.0 (3)	1.0 ± 0.0 (3)	0.9 ± 0.1 (3)
Adipoq	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Angptl4	1.0 ± 0.1 (6)	1.6 ± 0.2 (3)	3.8 ± 0.4 (3)	6.2 ± 0.7 (3)	11.3 ± 0.6 (3)	17.0 ± 0.4 (3)	19.5 ± 0.2 (3)	17.3 ± 1.0 (3)	17.0 ± 2.0 (3)
Apoa1	1.0 ± 0.0 (6)	1.1 ± 0.1 (3)	1.2 ± 0.1 (3)	1.1 ± 0.0 (3)	0.9 ± 0.1 (3)	1.2 ± 0.0 (3)	1.0 ± 0.1 (3)	1.2 ± 0.1 (3)	1.5 ± 0.1 (3)
Apoa5	1.0 ± 0.1 (6)	1.4 ± 0.1 (3)	1.3 ± 0.4 (3)	1.4 ± 0.0 (3)	1.5 ± 0.1 (3)	1.3 ± 0.4 (3)	1.6 ± 0.2 (3)	1.0 ± 0.2 (3)	1.3 ± 0.2 (3)
Apoc3	1.0 ± 0.1 (6)	1.2 ± 0.2 (3)	1.4 ± 0.3 (3)	1.3 ± 0.3 (3)	1.0 ± 0.2 (3)	1.1 ± 0.3 (3)	1.3 ± 0.3 (3)	0.9 ± 0.1 (3)	1.3 ± 0.2 (3)
ApoE	1.0 ± 0.0 (6)	1.1 ± 0.0 (3)	1.1 ± 0.1 (3)	1.1 ± 0.0 (3)	1.1 ± 0.1 (3)	0.9 ± 0.0 (3)	1.0 ± 0.1 (3)	1.0 ± 0.1 (3)	1.2 ± 0.1 (3)
Aqp7	1.0 ± 0.0 (6)	1.0 ± 0.1 (3)	1.0 ± 0.1 (3)	1.3 ± 0.1 (3)	1.5 ± 0.1 (3)	1.6 ± 0.0 (3)	1.7 ± 0.1 (3)	1.6 ± 0.2 (3)	1.8 ± 0.0 (3)
Cd36	1.0 ± 0.0 (6)	0.8 ± 0.1 (3)	0.8 ± 0.2 (3)	0.8 ± 0.1 (3)	0.9 ± 0.1 (3)	0.8 ± 0.1 (3)	0.8 ± 0.0 (3)	0.8 ± 0.0 (3)	0.8 ± 0.0 (3)
Clu	1.0 ± 0.1 (6)	1.1 ± 0.1 (3)	1.4 ± 0.1 (3)	1.1 ± 0.0 (3)	1.1 ± 0.1 (3)	1.4 ± 0.0 (3)	1.3 ± 0.1 (3)	1.1 ± 0.1 (3)	1.2 ± 0.2 (3)
Cpt1a	1.0 ± 0.1 (6)	1.3 ± 0.1 (3)	2.0 ± 0.1 (3)	3.4 ± 0.5 (3)	4.6 ± 0.1 (3)	6.2 ± 0.4 (3)	9.7 ± 1.8 (3)	11.2 ± 1.7 (3)	9.9 ± 1.5 (3)
Cpt1b	1.0 ± 0.1 (6)	1.7 ± 0.4 (3)	3.0 ± 0.4 (3)	3.5 ± 0.4 (3)	8.6 ± 0.8 (3)	10.3 ± 0.3 (3)	16.7 ± 0.4 (3)	16.4 ± 0.9 (3)	21.2 ± 1.9 (3)
Cpt2	1.0 ± 0.0 (6)	1.2 ± 0.1 (3)	1.4 ± 0.1 (3)	2.1 ± 0.2 (3)	2.9 ± 0.1 (3)	3.2 ± 0.1 (3)	4.1 ± 0.1 (3)	4.0 ± 0.2 (3)	4.3 ± 0.4 (3)
Creb1	1.0 ± 0.0 (6)	1.0 ± 0.1 (3)	1.1 ± 0.0 (3)	1.0 ± 0.1 (3)	1.0 ± 0.1 (3)	0.9 ± 0.1 (3)	0.9 ± 0.0 (3)	0.8 ± 0.0 (3)	0.9 ± 0.0 (3)
Crebbp	1.0 ± 0.0 (6)	1.0 ± 0.1 (3)	1.1 ± 0.1 (3)	1.0 ± 0.1 (3)	1.0 ± 0.0 (3)	0.9 ± 0.1 (3)	1.0 ± 0.0 (3)	1.0 ± 0.0 (3)	1.0 ± 0.1 (3)
Cyp27a1	1.0 ± 0.0 (6)	1.1 ± 0.1 (3)	1.1 ± 0.2 (3)	1.0 ± 0.1 (3)	1.1 ± 0.1 (3)	0.9 ± 0.0 (3)	1.0 ± 0.0 (3)	1.0 ± 0.0 (3)	1.1 ± 0.1 (3)
Cyp7a1	1.0 ± 0.2 (6)	1.3 ± 0.3 (3)	0.9 ± 0.1 (3)	1.6 ± 0.7 (3)	1.1 ± 0.4 (3)	0.4 ± 0.0 (3)	0.5 ± 0.0 (3)	0.6 ± 0.2 (3)	0.6 ± 0.1 (3)
Dgat1	1.0 ± 0.0 (6)	1.1 ± 0.1 (3)	1.2 ± 0.1 (3)	1.4 ± 0.0 (3)	1.5 ± 0.1 (3)	1.2 ± 0.0 (3)	1.5 ± 0.1 (3)	1.5 ± 0.1 (3)	1.5 ± 0.0 (3)
Ech1	1.0 ± 0.0 (6)	1.1 ± 0.1 (3)	1.2 ± 0.0 (3)	1.5 ± 0.2 (3)	2.1 ± 0.1 (3)	2.6 ± 0.2 (3)	4.6 ± 0.4 (3)	4.3 ± 0.4 (3)	6.5 ± 1.0 (3)

Ehhadh	1.0 ± 0.1 (6)	1.6 ± 0.2 (3)	4.6 ± 0.4 (3)	30.5 ± 12.2 (3)	81.2 ± 9.6 (3)	144.8 ± 15.1 (3)	214.8 ± 7.5 (3)	252.3 ± 31.6 (3)	321.0 ± 33.8 (3)
Eln	1.0 ± 0.1 (6)	1.2 ± 0.3 (3)	1.6 ± 0.3 (3)	1.0 ± 0.1 (3)	1.0 ± 0.3 (3)	1.3 ± 0.0 (3)	1.1 ± 0.2 (3)	1.5 ± 0.1 (3)	1.4 ± 0.3 (3)
Ep300	1.0 ± 0.0 (6)	1.0 ± 0.1 (3)	1.2 ± 0.0 (3)	1.0 ± 0.0 (3)	1.0 ± 0.0 (3)	0.9 ± 0.0 (3)	1.0 ± 0.0 (3)	0.9 ± 0.0 (3)	0.9 ± 0.0 (3)
Etfdh	1.0 ± 0.1 (6)	1.0 ± 0.1 (3)	1.2 ± 0.0 (3)	1.7 ± 0.1 (3)	2.1 ± 0.1 (3)	2.7 ± 0.1 (3)	3.5 ± 0.2 (3)	3.6 ± 0.2 (3)	4.1 ± 0.3 (3)
Fabp1	1.0 ± 0.1 (6)	1.8 ± 0.5 (3)	3.3 ± 0.7 (3)	10.9 ± 2.6 (3)	28.3 ± 0.5 (3)	56.6 ± 0.8 (3)	77.8 ± 3.5 (3)	88.3 ± 4.0 (3)	105.3 ± 8.0 (3)
Fabp2	1.0 ± 0.1 (6)	0.9 ± 0.2 (3)	1.0 ± 0.1 (3)	1.0 ± 0.1 (3)	1.1 ± 0.0 (3)	1.0 ± 0.0 (3)	0.7 ± 0.0 (3)	0.9 ± 0.0 (3)	1.0 ± 0.2 (3)
Fabp3	1.0 ± 0.1 (6)	1.0 ± 0.0 (3)	1.2 ± 0.1 (3)	1.1 ± 0.1 (3)	1.1 ± 0.1 (3)	0.8 ± 0.0 (3)	1.0 ± 0.1 (3)	1.0 ± 0.0 (3)	1.0 ± 0.1 (3)
Fabp4	1.0 ± 0.1 (6)	1.4 ± 0.2 (3)	1.5 ± 0.0 (3)	1.2 ± 0.1 (3)	1.2 ± 0.0 (3)	0.9 ± 0.1 (3)	0.9 ± 0.1 (3)	1.0 ± 0.1 (3)	1.5 ± 0.2 (3)
Fabp5	1.0 ± 0.0 (6)	1.1 ± 0.2 (3)	1.0 ± 0.0 (3)	1.1 ± 0.0 (3)	1.1 ± 0.1 (3)	1.3 ± 0.1 (3)	1.4 ± 0.0 (3)	1.5 ± 0.1 (3)	1.8 ± 0.2 (3)
Fabp6	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fabp7	1.0 ± 0.1 (6)	1.0 ± 0.2 (3)	1.0 ± 0.0 (3)	1.3 ± 0.1 (3)	1.4 ± 0.1 (3)	1.3 ± 0.2 (3)	1.8 ± 0.3 (3)	1.8 ± 0.2 (3)	1.9 ± 0.3 (3)
Fads2	1.0 ± 0.0 (6)	1.1 ± 0.1 (3)	1.2 ± 0.0 (3)	1.1 ± 0.1 (3)	1.6 ± 0.1 (3)	1.8 ± 0.1 (3)	2.0 ± 0.2 (3)	2.2 ± 0.0 (3)	2.1 ± 0.0 (3)
Fgr	1.0 ± 0.0 (6)	0.9 ± 0.1 (3)	1.3 ± 0.2 (3)	1.0 ± 0.1 (3)	1.1 ± 0.2 (3)	0.9 ± 0.1 (3)	1.1 ± 0.2 (3)	0.9 ± 0.2 (3)	0.8 ± 0.2 (3)
Gk	1.0 ± 0.1 (6)	1.0 ± 0.1 (3)	1.0 ± 0.1 (3)	1.2 ± 0.1 (3)	1.4 ± 0.1 (3)	1.4 ± 0.2 (3)	1.9 ± 0.1 (3)	1.7 ± 0.0 (3)	2.0 ± 0.2 (3)
Hif1a	1.0 ± 0.0 (6)	1.0 ± 0.0 (3)	1.1 ± 0.0 (3)	1.2 ± 0.1 (3)	1.1 ± 0.0 (3)	1.0 ± 0.1 (3)	1.0 ± 0.0 (3)	1.0 ± 0.0 (3)	1.0 ± 0.1 (3)
Hmgcs2	1.0 ± 0.0 (6)	0.7 ± 0.3 (3)	2.9 ± 0.4 (3)	4.6 ± 0.7 (3)	8.0 ± 0.1 (3)	16.7 ± 0.1 (3)	20.9 ± 0.4 (3)	22.0 ± 0.1 (3)	22.7 ± 2.0 (3)
Hspd1	1.0 ± 0.0 (6)	1.1 ± 0.1 (3)	1.0 ± 0.0 (3)	1.2 ± 0.1 (3)	1.2 ± 0.1 (3)	1.0 ± 0.0 (3)	1.0 ± 0.0 (3)	1.0 ± 0.1 (3)	1.3 ± 0.2 (3)
Ilk	1.0 ± 0.0 (6)	1.0 ± 0.0 (3)	1.2 ± 0.0 (3)	1.1 ± 0.1 (3)	1.0 ± 0.1 (3)	1.0 ± 0.1 (3)	1.0 ± 0.0 (3)	1.0 ± 0.1 (3)	1.0 ± 0.0 (3)
Klf10	1.0 ± 0.0 (6)	1.0 ± 0.2 (3)	1.1 ± 0.1 (3)	1.1 ± 0.0 (3)	1.0 ± 0.1 (3)	1.5 ± 0.2 (3)	1.7 ± 0.1 (3)	1.6 ± 0.0 (3)	1.4 ± 0.2 (3)
Lpin1	1.0 ± 0.0 (6)	1.0 ± 0.2 (3)	1.2 ± 0.3 (3)	0.8 ± 0.0 (3)	0.9 ± 0.1 (3)	1.0 ± 0.1 (3)	1.0 ± 0.0 (3)	1.2 ± 0.0 (3)	1.3 ± 0.2 (3)
Lpl	1.0 ± 0.0 (6)	1.0 ± 0.0 (3)	1.1 ± 0.0 (3)	1.2 ± 0.0 (3)	1.4 ± 0.2 (3)	1.3 ± 0.0 (3)	1.5 ± 0.0 (3)	1.5 ± 0.0 (3)	1.4 ± 0.1 (3)
Med1	1.0 ± 0.1 (6)	1.0 ± 0.0 (3)	1.1 ± 0.0 (3)	1.1 ± 0.0 (3)	0.9 ± 0.1 (3)	0.9 ± 0.1 (3)	0.9 ± 0.0 (3)	1.0 ± 0.0 (3)	0.9 ± 0.1 (3)
Mlycd	1.0 ± 0.1 (6)	0.9 ± 0.1 (3)	1.0 ± 0.1 (3)	1.2 ± 0.0 (3)	1.4 ± 0.1 (3)	2.3 ± 0.1 (3)	2.6 ± 0.2 (3)	2.4 ± 0.2 (3)	2.1 ± 0.1 (3)
Mmp9	1.0 ± 0.1 (6)	1.2 ± 0.2 (3)	1.5 ± 0.3 (3)	1.0 ± 0.2 (3)	1.2 ± 0.3 (3)	1.0 ± 0.1 (3)	1.1 ± 0.1 (3)	1.0 ± 0.2 (3)	0.9 ± 0.2 (3)
Ncoa3	1.0 ± 0.0 (6)	1.0 ± 0.1 (3)	1.3 ± 0.1 (3)	1.0 ± 0.1 (3)	1.0 ± 0.0 (3)	0.9 ± 0.1 (3)	0.9 ± 0.0 (3)	1.0 ± 0.0 (3)	0.9 ± 0.0 (3)
Ncoa6	1.0 ± 0.0 (6)	1.0 ± 0.0 (3)	1.1 ± 0.0 (3)	0.9 ± 0.2 (3)	1.0 ± 0.0 (3)	0.9 ± 0.1 (3)	0.9 ± 0.1 (3)	0.9 ± 0.0 (3)	0.9 ± 0.1 (3)
Nr1h3	1.0 ± 0.1 (6)	1.1 ± 0.1 (3)	1.1 ± 0.1 (3)	1.1 ± 0.1 (3)	1.1 ± 0.1 (3)	1.1 ± 0.1 (3)	1.2 ± 0.1 (3)	1.2 ± 0.0 (3)	1.0 ± 0.0 (3)
Olr1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Pck1	1.0 ± 0.1 (6)	1.5 ± 0.2 (3)	1.6 ± 0.3 (3)	3.0 ± 1.2 (3)	4.4 ± 1.5 (3)	6.6 ± 1.6 (3)	11.8 ± 3.3 (3)	8.8 ± 1.7 (3)	26.6 ± 13.4 (3)
Pck2	1.0 ± 0.0 (6)	0.9 ± 0.1 (3)	1.1 ± 0.0 (3)	0.9 ± 0.1 (3)	0.9 ± 0.1 (3)	1.0 ± 0.1 (3)	0.9 ± 0.1 (3)	0.9 ± 0.0 (3)	1.0 ± 0.0 (3)

Pdpk1	1.0 ± 0.0 (6)	0.9 ± 0.1 (3)	1.1 ± 0.1 (3)	1.1 ± 0.0 (3)	0.8 ± 0.0 (3)	1.0 ± 0.0 (3)	1.0 ± 0.1 (3)	0.9 ± 0.0 (3)	1.0 ± 0.0 (3)
Pltp	1.0 ± 0.1 (6)	1.0 ± 0.2 (3)	1.5 ± 0.1 (3)	1.0 ± 0.1 (3)	1.4 ± 0.0 (3)	1.0 ± 0.0 (3)	1.0 ± 0.0 (3)	1.1 ± 0.1 (3)	1.0 ± 0.2 (3)
Ppara	1.0 ± 0.1 (6)	1.1 ± 0.1 (3)	1.2 ± 0.1 (3)	1.1 ± 0.0 (3)	0.9 ± 0.0 (3)	1.2 ± 0.1 (3)	1.4 ± 0.0 (3)	1.3 ± 0.1 (3)	1.3 ± 0.2 (3)
Ppard	1.0 ± 0.1 (6)	0.9 ± 0.1 (3)	1.4 ± 0.1 (3)	1.1 ± 0.1 (3)	1.0 ± 0.1 (3)	1.1 ± 0.0 (3)	1.2 ± 0.1 (3)	1.2 ± 0.0 (3)	1.0 ± 0.2 (3)
Pparg	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Ppargc1a	1.0 ± 0.0 (6)	0.9 ± 0.1 (3)	1.0 ± 0.1 (3)	0.7 ± 0.0 (3)	0.7 ± 0.1 (3)	0.6 ± 0.0 (3)	0.5 ± 0.0 (3)	0.6 ± 0.0 (3)	0.6 ± 0.0 (3)
Ppargc1b	1.0 ± 0.1 (6)	1.1 ± 0.2 (3)	1.3 ± 0.1 (3)	1.2 ± 0.1 (3)	1.1 ± 0.1 (3)	0.9 ± 0.1 (3)	1.1 ± 0.0 (3)	1.0 ± 0.1 (3)	1.0 ± 0.1 (3)
Pprc1	1.0 ± 0.0 (6)	1.0 ± 0.1 (3)	1.1 ± 0.1 (3)	1.0 ± 0.1 (3)	1.0 ± 0.1 (3)	0.9 ± 0.1 (3)	0.9 ± 0.0 (3)	0.9 ± 0.0 (3)	1.2 ± 0.1 (3)
Pten	1.0 ± 0.1 (6)	0.9 ± 0.1 (3)	1.0 ± 0.1 (3)	1.1 ± 0.1 (3)	0.8 ± 0.0 (3)	0.9 ± 0.1 (3)	1.0 ± 0.1 (3)	1.0 ± 0.0 (3)	1.0 ± 0.0 (3)
Pyy	1.0 ± 0.1 (6)	1.1 ± 0.2 (3)	1.0 ± 0.3 (3)	0.8 ± 0.2 (3)	0.9 ± 0.2 (3)	0.8 ± 0.0 (3)	1.0 ± 0.1 (3)	3.2 ± 1.2 (3)	2.9 ± 1.7 (3)
Rxra	1.0 ± 0.0 (6)	1.0 ± 0.1 (3)	1.2 ± 0.0 (3)	1.1 ± 0.1 (3)	1.1 ± 0.0 (3)	1.0 ± 0.0 (3)	1.1 ± 0.0 (3)	1.1 ± 0.0 (3)	1.0 ± 0.0 (3)
Rxrb	1.0 ± 0.0 (6)	1.0 ± 0.2 (3)	1.2 ± 0.1 (3)	1.0 ± 0.0 (3)	1.1 ± 0.1 (3)	0.9 ± 0.0 (3)	0.9 ± 0.0 (3)	1.0 ± 0.0 (3)	0.9 ± 0.0 (3)
Rxrg	1.0 ± 0.0 (6)	1.5 ± 0.3 (3)	1.2 ± 0.0 (3)	2.2 ± 0.5 (3)	4.0 ± 0.3 (3)	4.4 ± 0.8 (3)	4.9 ± 0.2 (3)	3.4 ± 0.1 (3)	3.4 ± 0.3 (3)
Scd1	1.0 ± 0.0 (6)	1.1 ± 0.1 (3)	1.3 ± 0.1 (3)	1.4 ± 0.2 (3)	1.7 ± 0.2 (3)	2.4 ± 0.2 (3)	2.9 ± 0.1 (3)	3.6 ± 0.4 (3)	3.6 ± 0.3 (3)
Sirt1	1.0 ± 0.0 (6)	0.9 ± 0.0 (3)	1.0 ± 0.0 (3)	1.0 ± 0.0 (3)	0.8 ± 0.0 (3)	0.9 ± 0.1 (3)	1.0 ± 0.0 (3)	0.8 ± 0.0 (3)	0.9 ± 0.0 (3)
Slc22a5	1.0 ± 0.0 (6)	1.0 ± 0.2 (3)	1.6 ± 0.1 (3)	1.7 ± 0.1 (3)	2.6 ± 0.3 (3)	2.4 ± 0.4 (3)	3.4 ± 0.6 (3)	3.2 ± 0.3 (3)	2.9 ± 0.1 (3)
Slc27a1	1.0 ± 0.0 (6)	1.0 ± 0.1 (3)	1.1 ± 0.0 (3)	1.0 ± 0.1 (3)	1.1 ± 0.1 (3)	0.9 ± 0.0 (3)	0.9 ± 0.0 (3)	1.0 ± 0.1 (3)	1.0 ± 0.1 (3)
Slc27a2	1.0 ± 0.0 (6)	1.0 ± 0.0 (3)	1.2 ± 0.0 (3)	1.6 ± 0.1 (3)	1.8 ± 0.1 (3)	2.1 ± 0.1 (3)	2.4 ± 0.1 (3)	2.5 ± 0.0 (3)	2.7 ± 0.1 (3)
Slc27a4	1.0 ± 0.0 (6)	1.0 ± 0.1 (3)	1.2 ± 0.1 (3)	1.0 ± 0.1 (3)	1.0 ± 0.1 (3)	0.9 ± 0.0 (3)	1.0 ± 0.1 (3)	1.0 ± 0.0 (3)	0.9 ± 0.0 (3)
Slc27a5	1.0 ± 0.1 (6)	1.2 ± 0.2 (3)	1.1 ± 0.2 (3)	1.2 ± 0.2 (3)	1.1 ± 0.3 (3)	0.9 ± 0.0 (3)	1.0 ± 0.1 (3)	1.1 ± 0.1 (3)	1.1 ± 0.3 (3)
Slc27a6	1.0 ± 0.0 (6)	1.4 ± 0.1 (3)	1.1 ± 0.2 (3)	1.1 ± 0.2 (3)	1.4 ± 0.4 (3)	1.0 ± 0.1 (3)	1.3 ± 0.2 (3)	1.7 ± 0.3 (3)	1.5 ± 0.4 (3)
Smardc3	1.0 ± 0.1 (6)	1.2 ± 0.1 (3)	1.2 ± 0.1 (3)	1.2 ± 0.2 (3)	1.0 ± 0.1 (3)	1.0 ± 0.1 (3)	0.9 ± 0.1 (3)	1.1 ± 0.1 (3)	1.0 ± 0.2 (3)
Sorbs1	1.0 ± 0.1 (6)	1.2 ± 0.2 (3)	1.5 ± 0.1 (3)	1.3 ± 0.1 (3)	1.2 ± 0.1 (3)	0.9 ± 0.1 (3)	1.1 ± 0.1 (3)	1.0 ± 0.0 (3)	1.3 ± 0.2 (3)
Src	1.0 ± 0.0 (6)	1.1 ± 0.3 (3)	1.5 ± 0.1 (3)	0.9 ± 0.1 (3)	0.9 ± 0.2 (3)	1.0 ± 0.0 (3)	0.9 ± 0.1 (3)	0.9 ± 0.0 (3)	0.7 ± 0.1 (3)
Tgs1	1.0 ± 0.0 (6)	0.9 ± 0.1 (3)	1.0 ± 0.1 (3)	0.9 ± 0.0 (3)	1.0 ± 0.0 (3)	0.8 ± 0.1 (3)	1.0 ± 0.1 (3)	0.9 ± 0.1 (3)	0.9 ± 0.0 (3)
Txnip	1.0 ± 0.0 (6)	0.9 ± 0.1 (3)	1.1 ± 0.1 (3)	1.1 ± 0.0 (3)	1.2 ± 0.0 (3)	1.1 ± 0.1 (3)	1.2 ± 0.2 (3)	1.1 ± 0.1 (3)	1.1 ± 0.2 (3)
Ucp1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Actb	1.0 ± 0.0 (6)	1.1 ± 0.1 (3)	1.1 ± 0.0 (3)	1.0 ± 0.1 (3)	1.0 ± 0.0 (3)	1.0 ± 0.0 (3)	1.0 ± 0.0 (3)	1.0 ± 0.0 (3)	0.9 ± 0.0 (3)
B2m	1.0 ± 0.0 (6)	0.9 ± 0.1 (3)	0.9 ± 0.0 (3)	1.0 ± 0.1 (3)	1.0 ± 0.0 (3)	1.0 ± 0.0 (3)	1.0 ± 0.0 (3)	1.0 ± 0.0 (3)	1.1 ± 0.0 (3)
Hprt1	1.0 ± 0.0 (6)	0.9 ± 0.0 (3)	1.0 ± 0.1 (3)	1.0 ± 0.0 (3)	0.8 ± 0.0 (3)	0.9 ± 0.1 (3)	0.9 ± 0.1 (3)	0.9 ± 0.0 (3)	1.0 ± 0.0 (3)
Ldha	1.0 ± 0.0 (6)	1.3 ± 0.0 (3)	1.4 ± 0.1 (3)	1.3 ± 0.1 (3)	1.3 ± 0.1 (3)	1.4 ± 0.1 (3)	1.4 ± 0.0 (3)	1.4 ± 0.1 (3)	1.6 ± 0.1 (3)

Rplp1	1.0 ± 0.0 (6)	1.1 ± 0.1 (3)	1.1 ± 0.0 (3)	1.2 ± 0.0 (3)	1.2 ± 0.1 (3)	0.9 ± 0.0 (3)	0.9 ± 0.0 (3)	0.9 ± 0.0 (3)	1.1 ± 0.1 (3)
RGDC	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
RTC1	1.0 ± 0.0 (6)	1.3 ± 0.2 (3)	1.0 ± 0.0 (3)	1.1 ± 0.1 (3)	1.6 ± 0.4 (3)	0.8 ± 0.0 (3)	0.8 ± 0.0 (3)	0.8 ± 0.1 (3)	1.2 ± 0.2 (3)
RTC2	1.0 ± 0.0 (6)	1.3 ± 0.3 (3)	1.1 ± 0.0 (3)	1.1 ± 0.1 (3)	1.6 ± 0.5 (3)	0.8 ± 0.0 (3)	0.8 ± 0.0 (3)	0.8 ± 0.1 (3)	1.1 ± 0.2 (3)
RTC3	1.0 ± 0.0 (6)	1.4 ± 0.2 (3)	1.0 ± 0.0 (3)	1.1 ± 0.1 (3)	1.6 ± 0.5 (3)	0.8 ± 0.0 (3)	0.8 ± 0.0 (3)	0.8 ± 0.1 (3)	1.1 ± 0.1 (3)
PPC1	1.0 ± 0.0 (6)	1.4 ± 0.2 (3)	1.2 ± 0.0 (3)	1.2 ± 0.1 (3)	1.7 ± 0.6 (3)	0.9 ± 0.1 (3)	0.9 ± 0.0 (3)	0.8 ± 0.0 (3)	1.2 ± 0.2 (3)
PPC2	1.0 ± 0.0 (6)	1.5 ± 0.3 (3)	1.2 ± 0.0 (3)	1.2 ± 0.0 (3)	1.8 ± 0.6 (3)	0.8 ± 0.0 (3)	0.8 ± 0.0 (3)	0.8 ± 0.0 (3)	1.1 ± 0.2 (3)
PPC3	1.0 ± 0.0 (6)	1.5 ± 0.4 (3)	1.2 ± 0.0 (3)	1.2 ± 0.0 (3)	1.7 ± 0.6 (3)	0.8 ± 0.0 (3)	0.9 ± 0.0 (3)	0.8 ± 0.1 (3)	1.2 ± 0.1 (3)

Data represent fold induction versus control (mean ± standard error (n)).

Genes reported as “n/a” were not sufficiently expressed ($C_T \geq 36$) to analyze

GD=gestation day; PPAR=peroxisome proliferator activated receptor; HFPO-DA=hexafluoropropylene oxide-dimer acid

Table S4. Fetal testis (collected GD18) gene expression of genes associated with phthalate-like male reproductive effects following GD14-18 maternal oral exposure to HFPO-DA.

Gene	HFPO-DA dose (mg/kg/d)				
	0	62.5	125	250	500
Acox1	1.0 ± 0.1 (2)	1.3 ± 0.0 (3)	1.1 ± 0.1 (3)	1.1 ± 0.1 (3)	1.2 ± 0.0 (2)
Actb	1.0 ± 0.0 (2)	1.3 ± 0.1 (3)	1.1 ± 0.1 (3)	1.1 ± 0.0 (3)	1.1 ± 0.1 (2)
Acvr2b	1.0 ± 0.2 (2)	1.4 ± 0.1 (3)	1.2 ± 0.2 (3)	1.1 ± 0.1 (3)	1.3 ± 0.3 (2)
Adh1	1.0 ± 0.3 (2)	1.3 ± 0.5 (3)	1.7 ± 0.2 (3)	1.2 ± 0.3 (3)	1.7 ± 0.6 (2)
Aldh1a1	1.0 ± 0.1 (2)	1.1 ± 0.0 (3)	1.1 ± 0.1 (3)	1.1 ± 0.1 (3)	1.1 ± 0.1 (2)
Amhr2	1.0 ± 0.0 (2)	1.0 ± 0.0 (3)	0.9 ± 0.0 (3)	0.9 ± 0.1 (3)	1.0 ± 0.0 (2)
Apoa1	1.0 ± 0.4 (2)	0.6 ± 0.1 (3)	1.7 ± 1.0 (3)	0.7 ± 0.1 (3)	1.8 ± 1.3 (2)
Ar	1.0 ± 0.0 (2)	1.2 ± 0.0 (3)	1.2 ± 0.2 (3)	1.4 ± 0.2 (3)	1.5 ± 0.2 (2)
Axin1	1.0 ± 0.1 (2)	1.1 ± 0.1 (3)	1.0 ± 0.1 (3)	1.1 ± 0.1 (3)	1.1 ± 0.0 (2)
Axin2	1.0 ± 0.2 (2)	1.3 ± 0.1 (3)	1.0 ± 0.1 (3)	1.1 ± 0.1 (3)	1.2 ± 0.1 (2)
B2m	1.0 ± 0.1 (2)	1.3 ± 0.0 (3)	1.4 ± 0.1 (3)	1.2 ± 0.1 (3)	1.3 ± 0.2 (2)
Cbx2	1.0 ± 0.1 (2)	1.1 ± 0.1 (3)	1.1 ± 0.1 (3)	1.4 ± 0.2 (3)	1.4 ± 0.1 (2)
Cyp11a1	1.0 ± 0.0 (2)	1.3 ± 0.0 (3)	1.3 ± 0.2 (3)	1.3 ± 0.1 (3)	1.1 ± 0.1 (2)
Cyp11b1	1.0 ± 0.2 (2)	1.3 ± 0.1 (3)	1.0 ± 0.1 (3)	1.7 ± 0.3 (3)	1.1 ± 0.1 (2)
Cyp11b2	1.0 ± 0.2 (2)	1.7 ± 0.2 (3)	1.7 ± 0.2 (3)	2.2 ± 0.3 (3)	1.4 ± 0.1 (2)
Cyp17a1	1.0 ± 0.0 (2)	1.1 ± 0.1 (3)	1.2 ± 0.2 (3)	1.0 ± 0.1 (3)	1.2 ± 0.0 (2)
Cyp4a1	n/a	n/a	n/a	n/a	n/a
Dhcr7	1.0 ± 0.1 (2)	1.2 ± 0.1 (3)	1.2 ± 0.1 (3)	1.3 ± 0.2 (3)	1.4 ± 0.1 (2)
Dhh	1.0 ± 0.2 (2)	1.2 ± 0.1 (3)	1.2 ± 0.1 (3)	1.7 ± 0.4 (3)	1.5 ± 0.1 (2)
Dixdc1	1.0 ± 0.2 (2)	1.2 ± 0.1 (3)	0.9 ± 0.1 (3)	1.0 ± 0.1 (3)	1.1 ± 0.1 (2)
Dkk1	1.0 ± 0.2 (2)	1.9 ± 1.0 (3)	1.7 ± 0.2 (3)	2.0 ± 0.5 (3)	0.8 ± 0.1 (2)
Dkk3	1.0 ± 0.1 (2)	1.0 ± 0.1 (3)	1.0 ± 0.1 (3)	0.9 ± 0.1 (3)	0.9 ± 0.1 (2)
Dmrt1	1.0 ± 0.2 (2)	1.1 ± 0.0 (3)	1.1 ± 0.1 (3)	1.1 ± 0.2 (3)	1.0 ± 0.0 (2)
Dmrt2	1.0 ± 0.5 (2)	1.0 ± 0.3 (3)	1.1 ± 0.3 (3)	1.3 ± 0.5 (3)	0.8 ± 0.1 (2)
Dvl1	1.0 ± 0.0 (2)	1.0 ± 0.1 (3)	1.0 ± 0.0 (3)	1.2 ± 0.2 (3)	1.2 ± 0.1 (2)
Dvl2	1.0 ± 0.0 (2)	1.3 ± 0.1 (3)	1.0 ± 0.2 (3)	1.0 ± 0.1 (3)	1.0 ± 0.4 (2)
Dvl3	1.0 ± 0.0 (2)	1.6 ± 0.0 (3)	1.3 ± 0.2 (3)	1.3 ± 0.1 (3)	1.4 ± 0.1 (2)
Emx2	1.0 ± 0.0 (2)	1.2 ± 0.1 (3)	1.0 ± 0.1 (3)	1.1 ± 0.1 (3)	1.0 ± 0.1 (2)
Esr1	1.0 ± 0.2 (2)	1.5 ± 0.1 (3)	1.3 ± 0.1 (3)	1.2 ± 0.1 (3)	1.7 ± 0.1 (2)
Esr2	1.0 ± 0.1 (2)	0.8 ± 0.1 (3)	0.7 ± 0.2 (3)	0.9 ± 0.1 (3)	1.1 ± 0.0 (2)
Fabp1	1.0 ± 0.2 (2)	0.9 ± 0.4 (3)	14.8 ± 11.6 (3)	4.2 ± 1.3 (3)	12.8 ± 12.2 (2)
Fgf8	1.0 ± 0.1 (2)	1.3 ± 0.1 (3)	1.1 ± 0.3 (3)	1.3 ± 0.2 (3)	1.6 ± 0.4 (2)
Fgf9	1.0 ± 0.1 (2)	1.2 ± 0.1 (3)	0.9 ± 0.1 (3)	1.0 ± 0.1 (3)	1.0 ± 0.0 (2)
Gata4	1.0 ± 0.0 (2)	1.2 ± 0.0 (3)	1.2 ± 0.1 (3)	1.4 ± 0.1 (3)	1.4 ± 0.0 (2)
Gusb	1.0 ± 0.0 (2)	1.0 ± 0.0 (3)	0.9 ± 0.1 (3)	0.9 ± 0.1 (3)	0.9 ± 0.0 (2)
Hoxa2	1.0 ± 0.3 (2)	1.1 ± 0.3 (3)	0.7 ± 0.1 (3)	0.8 ± 0.1 (3)	0.5 ± 0.3 (2)
Hsd17b3	1.0 ± 0.1 (2)	1.1 ± 0.0 (3)	1.1 ± 0.1 (3)	1.1 ± 0.1 (3)	1.3 ± 0.1 (2)
Hsd3b	1.0 ± 0.1 (2)	1.1 ± 0.0 (3)	1.0 ± 0.1 (3)	1.0 ± 0.1 (3)	1.1 ± 0.2 (2)

Inha	1.0 ± 0.1 (2)	1.2 ± 0.1 (3)	1.4 ± 0.2 (3)	1.2 ± 0.2 (3)	1.0 ± 0.0 (2)
Inhba	1.0 ± 0.2 (2)	1.1 ± 0.1 (3)	1.0 ± 0.1 (3)	1.3 ± 0.1 (3)	1.3 ± 0.1 (2)
Inhbb	1.0 ± 0.1 (2)	1.1 ± 0.0 (3)	1.0 ± 0.1 (3)	1.2 ± 0.1 (3)	1.1 ± 0.1 (2)
Insl3	1.0 ± 0.0 (2)	1.3 ± 0.1 (3)	1.2 ± 0.2 (3)	1.3 ± 0.1 (3)	1.3 ± 0.0 (2)
Ldha	1.0 ± 0.0 (2)	0.8 ± 0.0 (3)	1.0 ± 0.0 (3)	0.9 ± 0.0 (3)	1.0 ± 0.1 (2)
Lhcgr	1.0 ± 0.1 (2)	1.5 ± 0.2 (3)	1.3 ± 0.1 (3)	1.4 ± 0.1 (3)	1.2 ± 0.0 (2)
Lhx1	1.0 ± 0.1 (2)	1.4 ± 0.1 (3)	1.5 ± 0.3 (3)	1.6 ± 0.2 (3)	1.2 ± 0.0 (2)
Lhx9	1.0 ± 0.2 (2)	1.4 ± 0.2 (3)	1.1 ± 0.1 (3)	1.3 ± 0.1 (3)	1.2 ± 0.3 (2)
LOC691504	1.0 ± 0.1 (2)	1.4 ± 0.2 (3)	1.5 ± 0.2 (3)	1.7 ± 0.5 (3)	1.1 ± 0.0 (2)
Mapk3	1.0 ± 0.0 (2)	1.0 ± 0.1 (3)	1.0 ± 0.1 (3)	1.0 ± 0.1 (3)	1.0 ± 0.1 (2)
Nr0b1	1.0 ± 0.2 (2)	1.1 ± 0.1 (3)	1.0 ± 0.1 (3)	0.9 ± 0.1 (3)	1.1 ± 0.2 (2)
Nr1d1	1.0 ± 0.1 (2)	1.2 ± 0.1 (3)	1.2 ± 0.0 (3)	1.2 ± 0.2 (3)	1.3 ± 0.0 (2)
Nr3c1	1.0 ± 0.0 (2)	1.1 ± 0.1 (3)	0.9 ± 0.1 (3)	1.1 ± 0.2 (3)	1.0 ± 0.0 (2)
Nr3c2	1.0 ± 0.3 (2)	1.1 ± 0.2 (3)	0.7 ± 0.2 (3)	0.9 ± 0.1 (3)	1.1 ± 0.0 (2)
Nr4a2	1.0 ± 0.2 (2)	1.2 ± 0.1 (3)	1.1 ± 0.2 (3)	1.0 ± 0.0 (3)	1.2 ± 0.2 (2)
Nr5a1	1.0 ± 0.2 (2)	1.1 ± 0.0 (3)	1.0 ± 0.1 (3)	1.2 ± 0.1 (3)	1.2 ± 0.1 (2)
Ntf3	1.0 ± 0.2 (2)	1.2 ± 0.1 (3)	1.1 ± 0.1 (3)	1.1 ± 0.1 (3)	1.0 ± 0.0 (2)
Ntrk3	1.0 ± 0.1 (2)	1.6 ± 0.4 (3)	1.3 ± 0.1 (3)	1.3 ± 0.3 (3)	1.2 ± 0.3 (2)
Pcaf	1.0 ± 0.1 (2)	1.3 ± 0.1 (3)	1.3 ± 0.2 (3)	1.0 ± 0.1 (3)	1.1 ± 0.1 (2)
Pdgfa	1.0 ± 0.1 (2)	1.0 ± 0.1 (3)	0.9 ± 0.1 (3)	1.2 ± 0.1 (3)	1.3 ± 0.0 (2)
Pdgfra	1.0 ± 0.3 (2)	1.0 ± 0.1 (3)	0.8 ± 0.1 (3)	0.9 ± 0.1 (3)	1.0 ± 0.0 (2)
Pou5f1	1.0 ± 0.3 (2)	1.2 ± 0.1 (3)	1.2 ± 0.1 (3)	1.0 ± 0.1 (3)	1.2 ± 0.2 (2)
Ppara	1.0 ± 0.2 (2)	1.0 ± 0.1 (3)	1.0 ± 0.0 (3)	0.9 ± 0.1 (3)	1.1 ± 0.0 (2)
Ppard	1.0 ± 0.1 (2)	1.1 ± 0.1 (3)	1.1 ± 0.1 (3)	1.2 ± 0.2 (3)	1.2 ± 0.1 (2)
Pparg	n/a	n/a	n/a	n/a	n/a
PPC	1.0 ± 0.1 (2)	1.0 ± 0.2 (3)	1.6 ± 0.4 (3)	1.0 ± 0.1 (3)	1.1 ± 0.0 (2)
Ptch1	1.0 ± 0.1 (2)	1.3 ± 0.1 (3)	1.0 ± 0.0 (3)	1.2 ± 0.2 (3)	1.4 ± 0.0 (2)
Ptgds2	1.0 ± 0.2 (2)	1.2 ± 0.1 (3)	1.4 ± 0.1 (3)	1.0 ± 0.1 (3)	1.1 ± 0.2 (2)
Rara	1.0 ± 0.0 (2)	1.3 ± 0.3 (3)	1.1 ± 0.2 (3)	1.1 ± 0.1 (3)	1.4 ± 0.1 (2)
Rarb	1.0 ± 0.0 (2)	1.3 ± 0.2 (3)	1.1 ± 0.0 (3)	1.1 ± 0.1 (3)	1.2 ± 0.0 (2)
Rarg_mapped	1.0 ± 0.0 (2)	1.1 ± 0.1 (3)	1.0 ± 0.1 (3)	1.2 ± 0.1 (3)	1.1 ± 0.1 (2)
RGD1563046	1.0 ± 0.3 (2)	1.0 ± 0.1 (3)	1.1 ± 0.1 (3)	0.9 ± 0.2 (3)	1.1 ± 0.1 (2)
RGDC	n/a	n/a	n/a	n/a	n/a
Rhox10	1.0 ± 0.2 (2)	0.9 ± 0.1 (3)	0.9 ± 0.2 (3)	1.0 ± 0.1 (3)	1.0 ± 0.1 (2)
Rhox5	1.0 ± 0.1 (2)	1.2 ± 0.1 (3)	1.0 ± 0.0 (3)	1.2 ± 0.2 (3)	1.3 ± 0.2 (2)
RTC	1.0 ± 0.0 (2)	0.8 ± 0.1 (3)	1.3 ± 0.3 (3)	1.0 ± 0.1 (3)	1.1 ± 0.1 (2)
Rxra	1.0 ± 0.0 (2)	1.1 ± 0.1 (3)	1.0 ± 0.1 (3)	1.2 ± 0.1 (3)	1.2 ± 0.2 (2)
Rxrb	1.0 ± 0.2 (2)	1.1 ± 0.1 (3)	1.1 ± 0.1 (3)	1.1 ± 0.1 (3)	1.2 ± 0.2 (2)
Rxrg	1.0 ± 0.1 (2)	1.2 ± 0.4 (3)	1.1 ± 0.3 (3)	1.3 ± 0.3 (3)	1.5 ± 0.2 (2)
Scarb1	1.0 ± 0.1 (2)	1.2 ± 0.1 (3)	1.2 ± 0.2 (3)	1.3 ± 0.2 (3)	1.4 ± 0.2 (2)
Sfrp1	1.0 ± 0.2 (2)	1.0 ± 0.1 (3)	1.0 ± 0.1 (3)	1.0 ± 0.2 (3)	1.1 ± 0.2 (2)
Sfrp2	1.0 ± 0.1 (2)	1.0 ± 0.2 (3)	0.7 ± 0.0 (3)	1.1 ± 0.1 (3)	0.9 ± 0.1 (2)
Sfrp4	1.0 ± 0.4 (2)	1.4 ± 0.3 (3)	2.4 ± 0.7 (3)	1.6 ± 0.5 (3)	1.6 ± 0.4 (2)

Sfrp5	1.0 ± 0.0 (2)	3.3 ± 0.9 (3)	1.7 ± 0.5 (3)	1.5 ± 0.3 (3)	2.2 ± 0.5 (2)
Smo	1.0 ± 0.2 (2)	0.9 ± 0.0 (3)	0.9 ± 0.1 (3)	1.2 ± 0.1 (3)	1.0 ± 0.0 (2)
Sox8	1.0 ± 0.2 (2)	1.5 ± 0.1 (3)	1.4 ± 0.0 (3)	1.6 ± 0.1 (3)	1.6 ± 0.2 (2)
Sox9	1.0 ± 0.2 (2)	1.3 ± 0.1 (3)	1.1 ± 0.1 (3)	1.4 ± 0.3 (3)	1.5 ± 0.1 (2)
Sra1	1.0 ± 0.0 (2)	1.2 ± 0.1 (3)	1.2 ± 0.1 (3)	1.0 ± 0.1 (3)	1.0 ± 0.1 (2)
Sry	1.0 ± 0.3 (2)	1.4 ± 0.3 (3)	1.1 ± 0.2 (3)	1.2 ± 0.1 (3)	1.7 ± 0.1 (2)
Star	1.0 ± 0.2 (2)	1.1 ± 0.1 (3)	1.0 ± 0.1 (3)	1.0 ± 0.1 (3)	1.0 ± 0.0 (2)
Tgfb1	1.0 ± 0.0 (2)	1.2 ± 0.1 (3)	1.2 ± 0.1 (3)	1.3 ± 0.1 (3)	1.1 ± 0.0 (2)
Tle1	1.0 ± 0.1 (2)	1.1 ± 0.1 (3)	1.0 ± 0.0 (3)	1.0 ± 0.1 (3)	1.1 ± 0.1 (2)
Tle2	1.0 ± 0.1 (2)	1.0 ± 0.0 (3)	1.1 ± 0.1 (3)	0.9 ± 0.0 (3)	1.0 ± 0.1 (2)
Tspo	1.0 ± 0.1 (2)	1.0 ± 0.0 (3)	1.1 ± 0.0 (3)	1.1 ± 0.1 (3)	1.2 ± 0.0 (2)
Vdr	1.0 ± 0.3 (2)	2.2 ± 0.0 (3)	1.4 ± 0.1 (3)	2.5 ± 0.3 (3)	2.7 ± 0.3 (2)
Wnt7a	1.0 ± 0.3 (2)	1.0 ± 0.1 (3)	1.1 ± 0.3 (3)	1.4 ± 0.3 (3)	2.0 ± 1.0 (2)
Wt1	1.0 ± 0.0 (2)	1.1 ± 0.1 (3)	1.0 ± 0.1 (3)	1.2 ± 0.2 (3)	1.2 ± 0.0 (2)
Zfp2	1.0 ± 0.2 (2)	1.3 ± 0.2 (3)	1.1 ± 0.1 (3)	1.1 ± 0.1 (3)	1.3 ± 0.2 (2)

Data represent fold induction versus control testis expression (mean ± standard error (n)).

Genes labelled “n/a” were not sufficiently expressed ($C_T \geq 36$) to analyze.

GD=gestation day; HFPO-DA=hexafluoropropylene oxide-dimer acid

Table S5. Maternal and fetal endpoints from GD14-18 oral maternal HFPO-DA exposure.

	HFPO-DA dose (mg/kg/d)								
	0	1	3	10	30	62.5	125	250	500
Dam BW GD14 (g)	336.0 ± 11.4 (9)	337.0 ± 12.9 (6)	341.6 ± 14.1 (6)	330.8 ± 13.4 (6)	338.0 ± 11.5 (6)	320.9 ± 8.7 (3)	330.6 ± 8.8 (3)	325.8 ± 3.7 (3)	339.1 ± 10.5 (3)
Dam BW GD18 (g)	369.6 ± 13.2 (9)	369.8 ± 15.1 (6)	378.6 ± 19.1 (6)	364.1 ± 15.6 (6)	371.5 ± 11.4 (6)	354.3 ± 12.4 (3)	366.2 ± 9.9 (3)	346.7 ± 5.5 (3)	350.2 ± 6.0 (3)
No. fetuses	13.1 ± 0.5 (9)	12.3 ± 1.0 (6)	13.3 ± 0.6 (6)	13.2 ± 0.5 (6)	13.5 ± 0.4 (6)	12.7 ± 0.9 (3)	14.3 ± 0.3 (3)	13.7 ± 1.3 (3)	14.7 ± 0.3 (3)
No. resorptions	0.1 ± 0.1 (9)	0.0 ± 0.0 (6)	0.0 ± 0.0 (6)	0.0 ± 0.0 (6)	0.2 ± 0.2 (6)	0.0 ± 0.0 (3)	0.0 ± 0.0 (3)	0.0 ± 0.0 (3)	0.0 ± 0.0 (3)
Dam liver wt (g)	16.7 ± 1.0 (9)	15.8 ± 0.7 (6)	16.7 ± 1.1 (6)	16.5 ± 0.5 (6)	17.2 ± 0.5 (6)	17.8 ± 0.7 (3)	19.1 ± 0.6 (3)	19.6 ± 0.3 (3)	19.2 ± 0.6 (3)
Fetal BW (mg)	875.4 ± 24.0 (6)	908.7 ± 27.0 (3)	816.7 ± 24.2 (3)	841.0 ± 38.4 (3)	842.2 ± 50.5 (3)	863.7 ± 31.7 (3)	841.8 ± 46.7 (3)	889.1 ± 26.9 (3)	808.2 ± 88.9 (3)
Dam BW gain (g)	33.7 ± 3.0 (9)	32.8 ± 4.4 (6)	37.0 ± 5.6 (6)	33.3 ± 2.8 (6)	33.6 ± 1.6 (6)	33.4 ± 4.3 (3)	35.5 ± 1.5 (3)	20.9 ± 3.5 (3)	11.1 ± 4.4 (3)
Dam serum T4 (ng/mL)	22.8 ± 1.9 (6)	27.9 ± 2.4 (3)	23.0 ± 4.5 (3)	17.5 ± 1.1 (3)	28.4 ± 7.2 (3)	20.3 ± 2.4 (3)	11.6 ± 0.7 (3)	8.4 ± 1.8 (3)	5.5 ± 0.9 (3)
Dam serum T3 (ng/mL)	0.62 ± 0.04 (6)	0.67 ± 0.07 (3)	0.61 ± 0.03 (3)	0.52 ± 0.07 (3)	0.45 ± 0.06 (3)	0.38 ± 0.06 (3)	0.32 ± 0.03 (3)	<DL (3)	<DL (3)
Dam serum Trig (mg/dL)	297.0 ± 40.9 (6)	265.7 ± 118.6 (3)	322.0 ± 17.9 (3)	262.0 ± 41.5 (3)	195.0 ± 15.3 (3)	211.0 ± 20.8 (3)	221.0 ± 48.2 (3)	171.0 ± 4.6 (3)	160.0 ± 59.4 (3)
Dam serum HDL (mg/dL)	37.3 ± 1.7 (6)	36.3 ± 3.7 (3)	36.0 ± 2.5 (3)	36.0 ± 2.5 (3)	33.0 ± 3.6 (3)	37.0 ± 1.2 (3)	36.7 ± 4.7 (3)	28.7 ± 3.2 (3)	19.3 ± 2.7 (3)
Dam serum Chol (mg/dL)	79.3 ± 4.1 (6)	86.3 ± 13.9 (3)	74.3 ± 5.0 (3)	69.7 ± 3.7 (3)	68.0 ± 9.1 (3)	72.0 ± 4.9 (3)	69.3 ± 8.4 (3)	54.3 ± 9.1 (3)	42.3 ± 8.8 (3)
Dam serum LDL (mg/dL)	17.8 ± 0.9 (6)	19.0 ± 3.2 (3)	14.7 ± 0.3 (3)	14.0 ± 0.6 (3)	14.7 ± 0.9 (3)	14.0 ± 1.2 (3)	12.7 ± 0.9 (3)	12.3 ± 1.9 (3)	13.3 ± 1.9 (3)
Fetal T prod (ng/mL)	7.7 ± 0.8 (6)	7.2 ± 0.5 (3)	6.5 ± 0.6 (3)	6.8 ± 0.7 (3)	7.2 ± 0.7 (3)	10.4 ± 1.3 (3)	9.1 ± 1.0 (3)	9.5 ± 0.3 (3)	9.8 ± 0.4 (3)
Fetal T prod (% Ctl)	100.0 ± 7.8 (6)	113.0 ± 7.5 (3)	101.1 ± 9.1 (3)	105.9 ± 10.2 (3)	111.7 ± 10.6 (3)	116.0 ± 14.2 (3)	101.3 ± 11.7 (3)	105.8 ± 3.3 (3)	109.6 ± 4.7 (3)

Data represent mean ± standard error (n). Values significantly different (p<0.05) from control, based on AVOVA, are shaded with bold text.

BW: body weight; GD: gestation day; Trig: triglycerides; Chol: cholesterol; T prod: testosterone production; <DL: Below assay detection limit; T4: total thyroxine; T3: total triiodothyronine; HDL: high density lipoprotein; LDL: low density lipoprotein; HFPO-DA: hexafluoropropylene oxide-dimer acid

Table S6. Maternal liver (collected GD18) PPAR gene expression following GD14-18 maternal oral exposure to HFPO-DA.

Gene	HFPO-DA dose (mg/kg/d)								
	0	1	3	10	30	62.5	125	250	500
Acaa2	1.0 ± 0.1 (5)	1.5 ± 0.4 (3)	1.2 ± 0.1 (3)	1.5 ± 0.3 (3)	1.9 ± 0.5 (2)	3.5 ± 0.2 (3)	4.2 ± 0.6 (3)	5.0 ± 0.3 (3)	5.4 ± 0.7 (3)
Acadl	1.0 ± 0.0 (5)	0.9 ± 0.2 (3)	1.2 ± 0.1 (3)	1.0 ± 0.1 (3)	1.5 ± 0.1 (2)	2.3 ± 0.0 (3)	2.3 ± 0.1 (3)	2.7 ± 0.1 (3)	2.7 ± 0.2 (3)
Acadm	1.0 ± 0.1 (5)	1.2 ± 0.2 (3)	1.2 ± 0.0 (3)	1.1 ± 0.1 (3)	1.8 ± 0.1 (2)	1.7 ± 0.2 (3)	2.2 ± 0.1 (3)	2.7 ± 0.2 (3)	2.6 ± 0.2 (3)
Acox1	1.0 ± 0.0 (5)	1.2 ± 0.2 (3)	1.4 ± 0.1 (3)	1.3 ± 0.2 (3)	3.0 ± 0.1 (2)	5.1 ± 0.5 (3)	8.3 ± 0.6 (3)	10.5 ± 0.8 (3)	10.5 ± 1.2 (3)
Acox3	1.0 ± 0.0 (5)	1.3 ± 0.1 (3)	1.3 ± 0.0 (3)	0.9 ± 0.2 (3)	1.2 ± 0.1 (2)	1.1 ± 0.1 (3)	1.2 ± 0.1 (3)	1.0 ± 0.1 (3)	0.9 ± 0.0 (3)
Acs11	1.0 ± 0.1 (5)	1.3 ± 0.1 (3)	1.5 ± 0.0 (3)	1.1 ± 0.3 (3)	1.7 ± 0.1 (2)	1.6 ± 0.1 (3)	1.8 ± 0.1 (3)	1.8 ± 0.0 (3)	1.7 ± 0.1 (3)
Acs13	1.0 ± 0.1 (5)	0.9 ± 0.2 (3)	1.1 ± 0.0 (3)	0.9 ± 0.2 (3)	1.0 ± 0.1 (2)	1.7 ± 0.0 (3)	2.0 ± 0.1 (3)	2.4 ± 0.4 (3)	2.7 ± 0.3 (3)
Acs14	1.0 ± 0.0 (5)	1.0 ± 0.1 (3)	1.0 ± 0.1 (3)	0.7 ± 0.1 (3)	0.9 ± 0.1 (2)	1.3 ± 0.0 (3)	1.2 ± 0.0 (3)	1.2 ± 0.1 (3)	1.0 ± 0.0 (3)
Acs15	1.0 ± 0.1 (5)	0.9 ± 0.1 (3)	1.0 ± 0.1 (3)	0.7 ± 0.1 (3)	0.9 ± 0.0 (2)	1.1 ± 0.1 (3)	1.0 ± 0.0 (3)	0.8 ± 0.1 (3)	0.5 ± 0.1 (3)
Adipoq	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Angptl4	1.0 ± 0.2 (5)	2.3 ± 0.4 (3)	3.4 ± 0.1 (3)	2.1 ± 0.7 (3)	3.6 ± 0.1 (2)	3.0 ± 0.3 (3)	3.0 ± 0.4 (3)	2.9 ± 0.1 (3)	2.5 ± 0.3 (3)
Apoa1	1.0 ± 0.0 (5)	0.9 ± 0.2 (3)	1.0 ± 0.1 (3)	0.9 ± 0.2 (3)	0.9 ± 0.1 (2)	1.0 ± 0.1 (3)	0.9 ± 0.1 (3)	1.0 ± 0.1 (3)	0.7 ± 0.0 (3)
Apoa5	1.0 ± 0.1 (5)	1.1 ± 0.1 (3)	1.2 ± 0.1 (3)	0.5 ± 0.1 (3)	0.8 ± 0.1 (2)	0.7 ± 0.0 (3)	0.6 ± 0.1 (3)	0.5 ± 0.0 (3)	0.3 ± 0.1 (3)
Apoc3	1.0 ± 0.1 (5)	1.3 ± 0.1 (3)	1.2 ± 0.1 (3)	0.9 ± 0.0 (3)	0.8 ± 0.0 (2)	0.6 ± 0.0 (3)	0.6 ± 0.1 (3)	0.4 ± 0.0 (3)	0.3 ± 0.0 (3)
ApoE	1.0 ± 0.0 (5)	1.2 ± 0.1 (3)	1.2 ± 0.1 (3)	0.8 ± 0.2 (3)	0.9 ± 0.0 (2)	0.9 ± 0.0 (3)	0.9 ± 0.0 (3)	0.8 ± 0.1 (3)	0.7 ± 0.0 (3)
Aqp7	1.0 ± 0.1 (5)	1.6 ± 0.2 (3)	1.9 ± 0.2 (3)	1.5 ± 0.4 (3)	2.1 ± 0.5 (2)	1.5 ± 0.1 (3)	1.4 ± 0.2 (3)	4.4 ± 0.3 (3)	3.1 ± 1.0 (3)
Cd36	1.0 ± 0.1 (5)	0.8 ± 0.2 (3)	1.2 ± 0.0 (3)	0.8 ± 0.0 (3)	0.9 ± 0.1 (2)	1.0 ± 0.0 (3)	1.2 ± 0.0 (3)	1.1 ± 0.1 (3)	1.0 ± 0.0 (3)
Clu	1.0 ± 0.0 (5)	1.1 ± 0.1 (3)	1.4 ± 0.2 (3)	0.8 ± 0.1 (3)	1.3 ± 0.0 (2)	1.2 ± 0.1 (3)	1.4 ± 0.1 (3)	1.5 ± 0.2 (3)	1.6 ± 0.1 (3)
Cpt1a	1.0 ± 0.1 (5)	1.5 ± 0.6 (3)	1.2 ± 0.2 (3)	0.9 ± 0.2 (3)	2.5 ± 0.2 (2)	1.7 ± 0.2 (3)	1.9 ± 0.0 (3)	2.4 ± 0.2 (3)	2.1 ± 0.3 (3)
Cpt1b	1.0 ± 0.1 (5)	2.1 ± 0.5 (3)	2.0 ± 0.3 (3)	1.4 ± 0.5 (3)	1.5 ± 0.4 (2)	2.6 ± 0.2 (3)	3.8 ± 0.9 (3)	19.0 ± 8.5 (3)	23.7 ± 7.6 (3)
Cpt2	1.0 ± 0.0 (5)	1.1 ± 0.2 (3)	1.7 ± 0.2 (3)	1.6 ± 0.1 (3)	2.3 ± 0.1 (2)	2.8 ± 0.2 (3)	3.2 ± 0.1 (3)	3.3 ± 0.0 (3)	3.1 ± 0.2 (3)
Creb1	1.0 ± 0.0 (5)	1.1 ± 0.2 (3)	1.1 ± 0.0 (3)	0.9 ± 0.2 (3)	0.9 ± 0.0 (2)	1.0 ± 0.0 (3)	0.9 ± 0.1 (3)	0.8 ± 0.0 (3)	0.9 ± 0.0 (3)
Crebbp	1.0 ± 0.0 (5)	1.3 ± 0.2 (3)	1.3 ± 0.1 (3)	0.9 ± 0.2 (3)	1.0 ± 0.0 (2)	1.0 ± 0.0 (3)	1.0 ± 0.1 (3)	0.9 ± 0.0 (3)	1.0 ± 0.0 (3)
Cyp27a1	1.0 ± 0.1 (5)	1.4 ± 0.1 (3)	1.9 ± 0.1 (3)	0.9 ± 0.2 (3)	1.3 ± 0.0 (2)	1.2 ± 0.0 (3)	1.1 ± 0.2 (3)	1.0 ± 0.0 (3)	1.0 ± 0.1 (3)
Cyp7a1	1.0 ± 0.1 (5)	0.9 ± 0.3 (3)	2.0 ± 0.5 (3)	1.0 ± 0.3 (3)	1.1 ± 0.4 (2)	0.4 ± 0.1 (3)	0.3 ± 0.0 (3)	0.2 ± 0.0 (3)	0.3 ± 0.0 (3)
Dgat1	1.0 ± 0.0 (5)	1.1 ± 0.1 (3)	1.3 ± 0.0 (3)	1.1 ± 0.3 (3)	1.2 ± 0.0 (2)	1.5 ± 0.0 (3)	1.6 ± 0.1 (3)	1.8 ± 0.1 (3)	1.9 ± 0.1 (3)
Ech1	1.0 ± 0.0 (5)	2.2 ± 0.6 (3)	2.0 ± 0.3 (3)	3.8 ± 0.1 (3)	7.3 ± 0.5 (2)	8.8 ± 1.1 (3)	12.3 ± 0.4 (3)	15.4 ± 1.3 (3)	18.1 ± 1.5 (3)

Ehhadh	1.0 ± 0.0 (5)	1.5 ± 0.3 (3)	2.9 ± 0.2 (3)	3.0 ± 0.7 (3)	7.9 ± 0.1 (2)	18.0 ± 2.7 (3)	37.0 ± 2.6 (3)	53.5 ± 5.8 (3)	55.0 ± 5.6 (3)
Eln	1.0 ± 0.1 (5)	2.5 ± 0.4 (3)	1.4 ± 0.3 (3)	1.0 ± 0.5 (3)	2.1 ± 1.3 (2)	0.9 ± 0.1 (3)	1.6 ± 0.1 (3)	1.3 ± 0.6 (3)	0.9 ± 0.4 (3)
Ep300	1.0 ± 0.1 (5)	1.3 ± 0.2 (3)	1.4 ± 0.0 (3)	0.8 ± 0.2 (3)	1.1 ± 0.2 (2)	1.0 ± 0.0 (3)	0.8 ± 0.0 (3)	0.8 ± 0.1 (3)	0.8 ± 0.1 (3)
Etfdh	1.0 ± 0.0 (5)	1.2 ± 0.2 (3)	1.2 ± 0.0 (3)	1.6 ± 0.4 (3)	1.6 ± 0.1 (2)	1.4 ± 0.0 (3)	1.5 ± 0.0 (3)	1.6 ± 0.1 (3)	1.5 ± 0.1 (3)
Fabp1	1.0 ± 0.0 (5)	1.1 ± 0.2 (3)	1.0 ± 0.0 (3)	1.5 ± 0.2 (3)	1.4 ± 0.0 (2)	2.2 ± 0.1 (3)	2.5 ± 0.0 (3)	2.7 ± 0.0 (3)	2.3 ± 0.2 (3)
Fabp2	1.0 ± 0.1 (5)	0.7 ± 0.2 (3)	0.9 ± 0.1 (3)	1.0 ± 0.3 (3)	0.9 ± 0.1 (2)	1.5 ± 0.1 (3)	1.2 ± 0.2 (3)	1.6 ± 0.1 (3)	1.1 ± 0.1 (3)
Fabp3	1.0 ± 0.0 (5)	1.0 ± 0.1 (3)	1.2 ± 0.2 (3)	1.1 ± 0.0 (3)	0.8 ± 0.0 (2)	1.3 ± 0.1 (3)	1.1 ± 0.1 (3)	3.8 ± 2.1 (3)	5.6 ± 0.9 (3)
Fabp4	1.0 ± 0.2 (5)	2.3 ± 0.8 (3)	0.7 ± 0.2 (3)	1.3 ± 0.5 (3)	1.6 ± 0.1 (2)	0.8 ± 0.1 (3)	1.1 ± 0.2 (3)	1.8 ± 0.8 (3)	1.0 ± 0.1 (3)
Fabp5	1.0 ± 0.1 (5)	1.0 ± 0.2 (3)	1.0 ± 0.1 (3)	1.3 ± 0.3 (3)	1.3 ± 0.2 (2)	1.2 ± 0.1 (3)	1.0 ± 0.1 (3)	1.3 ± 0.1 (3)	0.8 ± 0.2 (3)
Fabp6	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Fabp7	1.0 ± 0.1 (5)	2.0 ± 0.7 (3)	1.1 ± 0.2 (3)	1.9 ± 0.5 (3)	1.8 ± 0.1 (2)	1.3 ± 0.3 (3)	1.7 ± 0.1 (3)	2.0 ± 0.4 (3)	1.7 ± 0.3 (3)
Fads2	1.0 ± 0.1 (5)	1.0 ± 0.4 (3)	1.4 ± 0.1 (3)	0.9 ± 0.1 (3)	1.8 ± 0.2 (2)	2.7 ± 0.3 (3)	3.0 ± 0.2 (3)	2.6 ± 0.2 (3)	1.8 ± 0.2 (3)
Fgr	1.0 ± 0.2 (5)	1.2 ± 0.2 (3)	1.0 ± 0.0 (3)	0.6 ± 0.1 (3)	0.8 ± 0.0 (2)	0.8 ± 0.1 (3)	0.5 ± 0.1 (3)	0.6 ± 0.0 (3)	0.5 ± 0.0 (3)
Gk	1.0 ± 0.1 (5)	1.2 ± 0.2 (3)	1.2 ± 0.0 (3)	0.8 ± 0.2 (3)	1.2 ± 0.1 (2)	1.1 ± 0.2 (3)	1.2 ± 0.1 (3)	1.3 ± 0.1 (3)	1.4 ± 0.1 (3)
Hif1a	1.0 ± 0.0 (5)	1.2 ± 0.0 (3)	1.2 ± 0.0 (3)	1.0 ± 0.1 (3)	1.0 ± 0.0 (2)	1.0 ± 0.0 (3)	1.1 ± 0.1 (3)	1.1 ± 0.1 (3)	1.3 ± 0.1 (3)
Hmgcs2	1.0 ± 0.0 (5)	1.3 ± 0.2 (3)	1.5 ± 0.1 (3)	1.1 ± 0.3 (3)	2.0 ± 0.2 (2)	2.3 ± 0.0 (3)	2.7 ± 0.2 (3)	3.0 ± 0.2 (3)	3.1 ± 0.1 (3)
Hspd1	1.0 ± 0.0 (5)	1.1 ± 0.1 (3)	1.2 ± 0.0 (3)	1.3 ± 0.1 (3)	1.1 ± 0.0 (2)	1.9 ± 0.1 (3)	1.8 ± 0.1 (3)	2.2 ± 0.1 (3)	2.1 ± 0.1 (3)
Ilk	1.0 ± 0.0 (5)	1.2 ± 0.1 (3)	1.2 ± 0.1 (3)	0.9 ± 0.1 (3)	1.1 ± 0.2 (2)	0.9 ± 0.0 (3)	0.9 ± 0.1 (3)	1.0 ± 0.0 (3)	1.0 ± 0.0 (3)
Klf10	1.0 ± 0.1 (5)	1.8 ± 0.5 (3)	2.0 ± 0.6 (3)	1.5 ± 0.5 (3)	2.5 ± 0.1 (2)	2.3 ± 0.1 (3)	2.5 ± 0.3 (3)	2.4 ± 0.5 (3)	2.5 ± 0.1 (3)
Lpin1	1.0 ± 0.1 (5)	1.2 ± 0.1 (3)	1.4 ± 0.3 (3)	0.8 ± 0.2 (3)	1.1 ± 0.1 (2)	1.0 ± 0.0 (3)	1.0 ± 0.0 (3)	1.0 ± 0.0 (3)	0.9 ± 0.1 (3)
Lpl	1.0 ± 0.1 (5)	2.0 ± 0.7 (3)	0.7 ± 0.0 (3)	0.9 ± 0.4 (3)	1.1 ± 0.1 (2)	0.8 ± 0.1 (3)	0.7 ± 0.1 (3)	5.1 ± 2.9 (3)	6.7 ± 2.9 (3)
Med1	1.0 ± 0.0 (5)	1.2 ± 0.2 (3)	1.3 ± 0.0 (3)	0.7 ± 0.0 (3)	1.0 ± 0.1 (2)	0.8 ± 0.0 (3)	0.9 ± 0.0 (3)	1.1 ± 0.1 (3)	1.0 ± 0.1 (3)
Mlycd	1.0 ± 0.1 (5)	1.1 ± 0.2 (3)	1.4 ± 0.2 (3)	1.0 ± 0.4 (3)	1.5 ± 0.0 (2)	2.1 ± 0.1 (3)	2.5 ± 0.1 (3)	2.9 ± 0.4 (3)	2.5 ± 0.4 (3)
Mmp9	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Ncoa3	1.0 ± 0.1 (5)	1.4 ± 0.2 (3)	1.4 ± 0.0 (3)	0.8 ± 0.2 (3)	1.0 ± 0.0 (2)	0.9 ± 0.1 (3)	0.9 ± 0.2 (3)	0.8 ± 0.1 (3)	0.8 ± 0.1 (3)
Ncoa6	1.0 ± 0.0 (5)	1.4 ± 0.1 (3)	1.2 ± 0.0 (3)	1.1 ± 0.4 (3)	1.2 ± 0.0 (2)	0.7 ± 0.1 (3)	0.8 ± 0.0 (3)	0.7 ± 0.1 (3)	0.9 ± 0.1 (3)
Nr1h3	1.0 ± 0.0 (5)	1.1 ± 0.2 (3)	1.5 ± 0.1 (3)	0.8 ± 0.2 (3)	1.1 ± 0.0 (2)	1.6 ± 0.1 (3)	1.6 ± 0.1 (3)	1.5 ± 0.1 (3)	1.3 ± 0.1 (3)
Olr1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Pck1	1.0 ± 0.2 (5)	1.2 ± 0.4 (3)	1.3 ± 0.1 (3)	0.5 ± 0.1 (3)	1.0 ± 0.4 (2)	1.0 ± 0.2 (3)	1.3 ± 0.5 (3)	1.1 ± 0.6 (3)	1.8 ± 0.9 (3)
Pck2	1.0 ± 0.1 (5)	1.1 ± 0.2 (3)	1.6 ± 0.3 (3)	1.1 ± 0.2 (3)	1.0 ± 0.1 (2)	1.9 ± 0.4 (3)	1.5 ± 0.2 (3)	2.2 ± 0.3 (3)	2.8 ± 0.3 (3)
Pdpk1	1.0 ± 0.1 (5)	0.9 ± 0.1 (3)	1.0 ± 0.1 (3)	0.8 ± 0.1 (3)	0.9 ± 0.0 (2)	1.0 ± 0.1 (3)	1.0 ± 0.0 (3)	1.1 ± 0.1 (3)	1.1 ± 0.0 (3)

Pltp	1.0 ± 0.1 (5)	1.2 ± 0.2 (3)	1.2 ± 0.2 (3)	0.7 ± 0.1 (3)	0.9 ± 0.1 (2)	1.4 ± 0.0 (3)	1.1 ± 0.1 (3)	1.0 ± 0.1 (3)	0.9 ± 0.0 (3)
Ppara	1.0 ± 0.1 (5)	1.1 ± 0.1 (3)	0.8 ± 0.0 (3)	0.7 ± 0.2 (3)	0.6 ± 0.0 (2)	1.0 ± 0.1 (3)	0.9 ± 0.1 (3)	0.8 ± 0.1 (3)	0.9 ± 0.1 (3)
Ppard	1.0 ± 0.1 (5)	1.0 ± 0.2 (3)	1.5 ± 0.1 (3)	0.6 ± 0.2 (3)	0.9 ± 0.1 (2)	1.0 ± 0.1 (3)	1.2 ± 0.1 (3)	1.1 ± 0.2 (3)	0.7 ± 0.1 (3)
Pparg	1.0 ± 0.1 (5)	1.6 ± 0.4 (3)	1.0 ± 0.1 (3)	1.0 ± 0.2 (3)	0.9 ± 0.0 (2)	0.8 ± 0.1 (3)	1.2 ± 0.2 (3)	1.7 ± 0.9 (3)	0.5 ± 0.1 (3)
Ppargc1a	1.0 ± 0.1 (5)	1.1 ± 0.2 (3)	0.7 ± 0.3 (3)	0.5 ± 0.1 (3)	0.6 ± 0.1 (2)	0.6 ± 0.0 (3)	0.7 ± 0.1 (3)	0.8 ± 0.5 (3)	0.4 ± 0.0 (3)
Ppargc1b	1.0 ± 0.1 (5)	1.1 ± 0.1 (3)	1.3 ± 0.1 (3)	0.9 ± 0.3 (3)	0.8 ± 0.2 (2)	0.7 ± 0.0 (3)	0.7 ± 0.2 (3)	1.1 ± 0.1 (3)	1.1 ± 0.3 (3)
Pprc1	1.0 ± 0.1 (5)	1.2 ± 0.4 (3)	1.2 ± 0.3 (3)	1.2 ± 0.2 (3)	1.0 ± 0.2 (2)	1.2 ± 0.2 (3)	1.2 ± 0.3 (3)	1.4 ± 0.2 (3)	1.5 ± 0.3 (3)
Pten	1.0 ± 0.0 (5)	0.8 ± 0.1 (3)	1.1 ± 0.1 (3)	0.8 ± 0.0 (3)	0.9 ± 0.1 (2)	1.0 ± 0.1 (3)	0.9 ± 0.0 (3)	0.9 ± 0.1 (3)	0.9 ± 0.1 (3)
Pyy	1.0 ± 0.1 (5)	1.6 ± 0.4 (3)	1.3 ± 0.0 (3)	1.1 ± 0.4 (3)	1.2 ± 0.0 (2)	1.6 ± 0.0 (3)	2.0 ± 0.3 (3)	2.1 ± 1.0 (3)	1.8 ± 0.4 (3)
Rxra	1.0 ± 0.0 (5)	1.2 ± 0.0 (3)	1.4 ± 0.0 (3)	0.7 ± 0.2 (3)	1.0 ± 0.1 (2)	1.1 ± 0.1 (3)	1.1 ± 0.1 (3)	1.0 ± 0.1 (3)	1.0 ± 0.1 (3)
Rxrb	1.0 ± 0.1 (5)	1.5 ± 0.4 (3)	1.4 ± 0.1 (3)	0.9 ± 0.3 (3)	1.1 ± 0.0 (2)	0.8 ± 0.0 (3)	0.9 ± 0.1 (3)	1.0 ± 0.1 (3)	0.9 ± 0.1 (3)
Rxrg	1.0 ± 0.0 (5)	1.5 ± 0.1 (3)	1.6 ± 0.1 (3)	1.1 ± 0.1 (3)	1.7 ± 0.0 (2)	1.5 ± 0.1 (3)	1.6 ± 0.1 (3)	1.6 ± 0.1 (3)	1.3 ± 0.1 (3)
Scd1	1.0 ± 0.1 (5)	0.8 ± 0.1 (3)	2.0 ± 0.4 (3)	1.5 ± 0.2 (3)	2.7 ± 0.2 (2)	4.1 ± 0.3 (3)	4.7 ± 0.1 (3)	5.6 ± 0.4 (3)	3.7 ± 0.4 (3)
Sirt1	1.0 ± 0.1 (5)	1.0 ± 0.1 (3)	1.1 ± 0.0 (3)	0.8 ± 0.1 (3)	1.0 ± 0.2 (2)	0.9 ± 0.1 (3)	0.9 ± 0.1 (3)	0.9 ± 0.0 (3)	1.1 ± 0.0 (3)
Slc22a5	1.0 ± 0.1 (5)	1.5 ± 0.2 (3)	2.0 ± 0.3 (3)	1.4 ± 0.2 (3)	3.1 ± 0.2 (2)	2.6 ± 0.5 (3)	3.0 ± 0.1 (3)	3.8 ± 0.5 (3)	4.0 ± 0.4 (3)
Slc27a1	1.0 ± 0.1 (5)	1.5 ± 0.1 (3)	1.6 ± 0.0 (3)	0.9 ± 0.3 (3)	1.4 ± 0.0 (2)	1.1 ± 0.1 (3)	1.0 ± 0.1 (3)	1.3 ± 0.2 (3)	1.3 ± 0.2 (3)
Slc27a2	1.0 ± 0.1 (5)	1.3 ± 0.2 (3)	1.3 ± 0.1 (3)	1.3 ± 0.1 (3)	1.8 ± 0.1 (2)	2.1 ± 0.2 (3)	2.2 ± 0.1 (3)	2.3 ± 0.1 (3)	2.3 ± 0.2 (3)
Slc27a4	1.0 ± 0.1 (5)	1.3 ± 0.1 (3)	1.5 ± 0.1 (3)	0.8 ± 0.2 (3)	1.0 ± 0.1 (2)	1.5 ± 0.1 (3)	1.0 ± 0.0 (3)	1.1 ± 0.2 (3)	0.9 ± 0.0 (3)
Slc27a5	1.0 ± 0.1 (5)	1.7 ± 0.4 (3)	1.2 ± 0.0 (3)	1.2 ± 0.2 (3)	1.1 ± 0.0 (2)	0.9 ± 0.0 (3)	1.0 ± 0.3 (3)	0.7 ± 0.0 (3)	0.7 ± 0.1 (3)
Slc27a6	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Smardc3	1.0 ± 0.1 (5)	1.2 ± 0.1 (3)	1.4 ± 0.1 (3)	0.8 ± 0.2 (3)	0.8 ± 0.1 (2)	1.0 ± 0.1 (3)	1.1 ± 0.2 (3)	1.2 ± 0.5 (3)	0.6 ± 0.1 (3)
Sorbs1	1.0 ± 0.1 (5)	2.0 ± 0.3 (3)	1.9 ± 0.8 (3)	1.0 ± 0.5 (3)	1.3 ± 0.3 (2)	1.7 ± 0.1 (3)	1.8 ± 0.4 (3)	3.5 ± 0.8 (3)	2.7 ± 0.6 (3)
Src	1.0 ± 0.1 (5)	1.5 ± 0.1 (3)	1.0 ± 0.0 (3)	0.6 ± 0.1 (3)	0.9 ± 0.2 (2)	1.1 ± 0.0 (3)	1.6 ± 0.3 (3)	1.5 ± 0.5 (3)	1.0 ± 0.2 (3)
Tgs1	1.0 ± 0.0 (5)	0.8 ± 0.3 (3)	0.9 ± 0.0 (3)	0.7 ± 0.2 (3)	0.9 ± 0.1 (2)	0.8 ± 0.1 (3)	1.1 ± 0.2 (3)	1.1 ± 0.1 (3)	0.9 ± 0.1 (3)
Txnip	1.0 ± 0.1 (5)	1.2 ± 0.1 (3)	1.3 ± 0.3 (3)	1.6 ± 0.6 (3)	3.7 ± 0.0 (2)	3.8 ± 0.6 (3)	4.5 ± 0.5 (3)	3.9 ± 0.9 (3)	2.7 ± 0.2 (3)
Ucp1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Actb	1.0 ± 0.0 (5)	1.0 ± 0.2 (3)	1.1 ± 0.0 (3)	0.8 ± 0.2 (3)	0.9 ± 0.1 (2)	0.9 ± 0.0 (3)	0.9 ± 0.0 (3)	0.8 ± 0.0 (3)	0.8 ± 0.0 (3)
B2m	1.0 ± 0.0 (5)	1.3 ± 0.1 (3)	1.3 ± 0.1 (3)	0.9 ± 0.0 (3)	1.2 ± 0.1 (2)	0.8 ± 0.1 (3)	0.8 ± 0.0 (3)	0.7 ± 0.0 (3)	0.7 ± 0.1 (3)
Hprt1	1.0 ± 0.0 (5)	0.9 ± 0.0 (3)	0.8 ± 0.0 (3)	1.1 ± 0.2 (3)	1.0 ± 0.0 (2)	1.1 ± 0.0 (3)	1.1 ± 0.1 (3)	1.1 ± 0.1 (3)	1.1 ± 0.1 (3)
Ldha	1.0 ± 0.0 (5)	0.9 ± 0.2 (3)	1.0 ± 0.1 (3)	0.9 ± 0.1 (3)	1.4 ± 0.0 (2)	2.2 ± 0.0 (3)	2.3 ± 0.1 (3)	2.2 ± 0.2 (3)	1.8 ± 0.1 (3)
Rplp1	1.0 ± 0.0 (5)	1.2 ± 0.2 (3)	1.1 ± 0.0 (3)	1.2 ± 0.1 (3)	1.2 ± 0.1 (2)	1.1 ± 0.0 (3)	1.0 ± 0.1 (3)	1.2 ± 0.1 (3)	1.1 ± 0.1 (3)

RGDC	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
RTC1	1.0 ± 0.1 (5)	1.6 ± 0.3 (3)	1.3 ± 0.1 (3)	0.8 ± 0.4 (3)	1.2 ± 0.0 (2)	0.9 ± 0.1 (3)	1.4 ± 0.1 (3)	1.7 ± 1.1 (3)	0.6 ± 0.0 (3)
RTC2	1.0 ± 0.1 (5)	1.6 ± 0.3 (3)	1.3 ± 0.1 (3)	1.1 ± 0.4 (3)	1.2 ± 0.0 (2)	1.0 ± 0.1 (3)	1.4 ± 0.2 (3)	1.7 ± 1.1 (3)	0.6 ± 0.0 (3)
RTC3	1.0 ± 0.1 (5)	1.5 ± 0.3 (3)	1.3 ± 0.1 (3)	1.1 ± 0.4 (3)	1.2 ± 0.0 (2)	0.9 ± 0.1 (3)	1.4 ± 0.2 (3)	1.6 ± 1.0 (3)	0.5 ± 0.0 (3)
PPC1	1.0 ± 0.1 (5)	1.5 ± 0.3 (3)	1.3 ± 0.1 (3)	1.0 ± 0.4 (3)	1.2 ± 0.0 (2)	0.9 ± 0.1 (3)	1.3 ± 0.1 (3)	1.7 ± 1.1 (3)	0.5 ± 0.0 (3)
PPC2	1.0 ± 0.1 (5)	1.5 ± 0.3 (3)	1.3 ± 0.1 (3)	1.1 ± 0.4 (3)	1.2 ± 0.0 (2)	0.9 ± 0.1 (3)	1.4 ± 0.1 (3)	1.7 ± 1.1 (3)	0.5 ± 0.0 (3)
PPC3	1.0 ± 0.1 (5)	1.5 ± 0.3 (3)	1.3 ± 0.1 (3)	1.0 ± 0.3 (3)	1.1 ± 0.0 (2)	1.0 ± 0.1 (3)	1.4 ± 0.1 (3)	1.7 ± 1.1 (3)	0.5 ± 0.0 (3)

Data represent fold induction versus control (mean ± standard error (n)).

Genes labelled “n/a” were not sufficiently expressed ($C_T \geq 36$) to analyze.

GD=gestation day; PPAR=peroxisome proliferator activated receptor; HFPO-DA=hexafluoropropylene oxide-dimer acid

Table S7. Maternal, perinatal, and pubertal endpoints from pilot postnatal study (GD14-18 oral maternal HFPO-DA dosing).

	Litter means		Individual means	
	0 mg/kg/d	125 mg/kg/d	0 mg/kg/d	125 mg/kg/d
Dam BW GD14 (g)	333.1 ± 6.2 (2)	325.5 ± 5.2 (3)	-	-
Dam BW GD18 (g)	366.0 ± 5.5 (2)	354.9 ± 9.0 (3)	-	-
Dam BW gain (g)	32.9 ± 0.7 (2)	29.4 ± 6.0 (3)	-	-
No. implants	13.0 ± 2.0 (2)	13.0 ± 1.0 (3)	-	-
No. pups on PND2	12.5 ± 1.5 (2)	12.7 ± 0.7 (3)	-	-
Post-implantation loss (%) on PND2	3.4 ± 3.4 (2)	2.2 ± 2.2 (3)	-	-
Female pup BW on PND2 (g)	7.9 ± 1.0 (2)	7.5 ± 0.1 (3)	8.2 ± 0.3 (11)	7.5 ± 0.1 (19)
Female AGD on PND2 (mm)	1.7 ± 0.1 (2)	1.5 ± 0.1 (3)	1.7 ± 0.1 (11)	1.5 ± 0.0 (19)
Male pup BW on PND2 (g)	8.1 ± 1.2 (2)	7.8 ± 0.1 (3)	7.6 ± 0.3 (14)	7.8 ± 0.1 (19)
Male AGD on PND2 (mm)	3.7 ± 0.2 (2)	3.7 ± 0.1 (3)	3.6 ± 0.1 (14)	3.7 ± 0.1 (19)
Female pup BW on PND13 (g)	28.1 ± 2.3 (2)	28.7 ± 0.1 (3)	28.7 ± 0.8 (11)	28.7 ± 0.3 (19)
Female NR on PND13 (#)	12.0 ± 0.0 (2)	12.0 ± 0.0 (3)	12.0 ± 0.0 (11)	12.0 ± 0.0 (19)
Male pup BW on PND13 (g)	28.5 ± 2.8 (2)	29.5 ± 0.5 (3)	27.3 ± 0.8 (14)	29.3 ± 0.3 (19)
Male NR on PND2 (#)	0.0 ± 0.0 (2)	0.1 ± 0.1 (3)	0.0 ± 0.0 (14)	0.1 ± 0.1 (19)
Female BW on PND27 (g)	82.4 ± 9.1 (2)	78.2 ± 3.5 (3)	84.9 ± 3.0 (11)	79.1 ± 1.4 (19)
Male BW on PND27 (g)	84.5 ± 9.3 (2)	83.3 ± 4.7 (3)	80.5 ± 2.5 (14)	81.1 ± 1.6 (19)
Female BW at VO (g)	131.3 ± 3.7 (2)	124.3 ± 4.2 (3)	132.3 ± 3.6 (11)	123.4 ± 2.3 (19)
Male BW at PPS (g)	215.5 ± 6.5 (2)	214.6 ± 8.0 (3)	212.8 ± 2.8 (14)	211.4 ± 3.7 (19)

Data represent mean ± standard error (n). Values significantly different (p<0.05) from control, based on ANOVA, identified in bold text and shaded cells.

BW: body weight; GD: gestation day; PND: postnatal day; AGD: ano-genital distance; NR: nipple retention; VO: vaginal opening; PPS: preputial separation; HFPO-DA: hexafluoropropylene oxide-dimer acid

Table S8. Adult male necropsy endpoints from pilot postnatal study (GD14-18 oral maternal HFPO-DA dosing).

	Litter means		Individual means	
	0 mg/kg/d	125 mg/kg/d	0 mg/kg/d	125 mg/kg/d
Body weight (g)	686.6 ± 39.1 (2)	682.6 ± 13.4 (3)	703.3 ± 17.9 (14)	676.5 ± 10.6 (19)
Glans penis (mg)	139.8 ± 1.1 (2)	135.0 ± 1.5 (3)	139.4 ± 2.6 (13)	134.5 ± 3.0 (19)
Ventral prostate (mg)	725.5 ± 31.7 (2)	678.7 ± 30.1 (3)	711.9 ± 41.4 (14)	682.1 ± 32.7 (19)
Paired seminal vesicles (g)	1.8 ± 0.0 (2)	1.8 ± 0.1 (3)	1.8 ± 0.1 (14)	1.8 ± 0.1 (19)
Paired testes (g)	4.1 ± 0.1 (2)	3.8 ± 0.1 (3)	4.2 ± 0.1 (14)	3.8 ± 0.1 (19)
Paired epididymides (mg)	1417.8 ± 8.8 (2)	1323.7 ± 24.3 (3)	1421.6 ± 15.6 (14)	1331.2 ± 21.2 (19)
Right testis (g)	2.1 ± 0.1 (2)	1.9 ± 0.0 (3)	2.1 ± 0.0 (14)	1.9 ± 0.0 (19)
Right cauda (mg)	327.8 ± 7.7 (2)	309.0 ± 6.0 (3)	324.5 ± 4.5 (14)	310.5 ± 6.2 (19)
Right corpus/caput (mg)	387.7 ± 14.3 (2)	350.5 ± 5.9 (3)	393.8 ± 5.5 (14)	352.6 ± 7.1 (19)
Right epididymis (mg)	715.5 ± 6.6 (2)	659.5 ± 11.8 (3)	718.3 ± 7.1 (14)	663.1 ± 11.2 (19)
Left testis (g)	2.1 ± 0.0 (2)	1.9 ± 0.0 (3)	2.1 ± 0.0 (14)	1.9 ± 0.0 (19)
Left epididymis (mg)	702.4 ± 2.2 (2)	664.2 ± 12.5 (3)	703.3 ± 10.0 (14)	668.1 ± 10.4 (19)
LABC (g)	1.5 ± 0.0 (2)	1.5 ± 0.1 (3)	1.5 ± 0.0 (14)	1.6 ± 0.0 (19)
Paired Cowper's glands (mg)	153.7 ± 4.6 (2)	165.6 ± 9.7 (3)	151.8 ± 5.9 (14)	163.4 ± 5.2 (19)
Visceral adipose tissue (g)	26.2 ± 3.0 (2)	26.8 ± 2.4 (3)	27.5 ± 1.6 (14)	25.8 ± 1.5 (19)
Epididymal adipose tissue (g)	9.1 ± 1.3 (2)	8.2 ± 1.0 (3)	9.6 ± 0.7 (14)	7.8 ± 0.5 (19)
Paired kidneys (g)	3.6 ± 0.1 (2)	3.4 ± 0.0 (3)	3.6 ± 0.1 (14)	3.4 ± 0.1 (18)
Liver (g)	20.9 ± 1.3 (2)	20.2 ± 0.4 (3)	21.4 ± 0.7 (14)	20.1 ± 0.4 (19)
Corpus/caput sperm (10 ⁶)	75.8 ± 0.6 (2)	72.0 ± 2.8 (3)	75.9 ± 2.0 (10)	72.6 ± 2.3 (15)
Cauda sperm (10 ⁶)	168.9 ± 6.9 (2)	160.0 ± 3.4 (3)	167.5 ± 5.6 (10)	159.7 ± 4.7 (15)
Total epididymal sperm (10 ⁶)	195.8 ± 5.1 (2)	185.6 ± 2.0 (3)	194.8 ± 5.3 (10)	185.8 ± 4.7 (15)

Data represent mean ± standard error (n). Values significantly different (p<0.05) from control, based on ANOVA, identified in bold text and shaded cells.

GD: gestation day; LABC: levator ani-bulbocavernosus; HFPO-DA: hexafluoropropylene oxide-dimer acid

Table S9. Adult female necropsy endpoints from pilot postnatal study (GD14-18 oral maternal HFPO-DA dosing).

	Litter means		Individual means	
	0 mg/kg/d	125 mg/kg/d	0 mg/kg/d	125 mg/kg/d
Body weight (g)	378.1 ± 16.9 (2)	374.0 ± 25.0 (3)	373.5 ± 8.3 (11)	370.3 ± 12.3 (19)
AGD (mm)	18.9 ± 0.6 (2)	16.8 ± 0.5 (3)	19.1 ± 0.4 (11)	16.7 ± 0.7 (19)
Uterus (mg)	630.7 ± 52.5 (2)	635.4 ± 74.3 (3)	645.0 ± 55.8 (11)	635.6 ± 48.9 (19)
Paired ovaries (mg)	135.5 ± 3.4 (2)	122.5 ± 8.6 (3)	134.6 ± 4.6 (11)	123.2 ± 3.6 (19)
Liver (g)	12.7 ± 0.7 (2)	11.4 ± 0.5 (3)	12.5 ± 0.4 (11)	11.3 ± 0.3 (19)
Paired kidneys (g)	2.2 ± 0.1 (2)	2.1 ± 0.1 (3)	2.3 ± 0.1 (11)	2.1 ± 0.1 (19)
Visceral adipose tissue (g)	23.9 ± 3.2 (2)	25.1 ± 4.6 (3)	23.0 ± 1.7 (11)	25.2 ± 2.4 (19)

Data represent mean ± standard error (n). Values significantly different (p<0.05) from control, based on ANOVA, identified in bold text and shaded cells.

GD: gestation day; AGD: ano-genital distance; HFPO-DA: hexafluoropropylene oxide-dimer acid

Table S10. Maternal serum and fetal/neonatal plasma HFPO-DA concentrations.

	HFPO-DA dose (mg/kg/d)								
	0	1	3	10	30	62.5	125	250	500
Pregnant dam serum ($\mu\text{g/mL}$)	0.027 ± 0.008 (9)	0.68 ± 0.08 (6)	1.2 ± 0.3 (6)	4.6 ± 1.1 (6)	13.9 ± 3.1 (6)	30.7 ± 2.9 (3)	46.0 ± 10.3 (3)	81.8 ± 21.6 (3)	100.7 ± 26.4 (3)
Fetal plasma ($\mu\text{g/mL}$)	0.018 ± 0.010 (3)	0.13 ± 0.06 (3)	0.49 ± 0.04 (3)	1.9 ± 0.2 (3)	3.5 ± 0.4 (3)	n/a	n/a	n/a	n/a

Data represent mean \pm standard error (n)

n/a indicates no sample collected at that dose

HFPO-DA=hexafluoropropylene oxide-dimer acid