

# Supplementary Materials: Transcriptomic Analysis of Gonadal Adipose Tissue in Male Mice Exposed Perinatally to 2,2',4,4'-Tetrabromodiphenyl Ether (BDE-47)

Aser Abrha and Alexander Suvorov

**Table S1.** Significant 2-fold differentially expressed genes in gonadal adipose tissue of mice exposed perinatally to 0.2 mg/kg body weight BDE-47.

Gene	Locus	log2 (Control FPKM)	log2 (BDE-47 FPKM)	log2 (Ratio)	q Value
Kif27, Mir6369	chr13:58287515-58354862	-0.91	3.35	4.26	$2.21 \times 10^{-2}$
Mir3061	chr11:52123633-52127767	-0.08	3.66	3.73	$1.30 \times 10^{-2}$
A330023F24Rik, Mir29b-2, Mir29c	chr1:195017157-195039001	1.51	4.66	3.15	$1.30 \times 10^{-2}$
Actg2	chr6:83512908-83536251	0.63	3.76	3.12	$1.30 \times 10^{-2}$
Mir17hg, Mir19b-1	chr14:115044304-115046851	0.54	2.85	2.3	$4.75 \times 10^{-2}$
Cish	chr9:107296688-107301961	1.12	3.25	2.13	$1.30 \times 10^{-2}$
Sfrp2	chr3:83766320-83774314	2.38	4.48	2.1	$1.30 \times 10^{-2}$
Epc1, Mir1893	chr18:6435950-6516108	3.12	4.64	1.52	$1.30 \times 10^{-2}$
Grem2	chr1:174833784-174921819	1.78	3.29	1.51	$1.30 \times 10^{-2}$
Mir5122, Slc9a1	chr4:133369771-133423698	3.48	4.84	1.36	$1.30 \times 10^{-2}$
Axin2	chr11:108920348-108950785	2.8	4.09	1.29	$1.30 \times 10^{-2}$
Myh11	chr16:14194364-14291408	3.9	5.18	1.28	$1.30 \times 10^{-2}$
Tpm2	chr4:43513725-43523554	4.27	5.31	1.04	$1.30 \times 10^{-2}$
Mpeg1, Pfpl	chr19:12427904-12465285	5.76	4.7	-1.06	$1.30 \times 10^{-2}$
Cadm1	chr9:47530351-47853385	3.02	1.91	-1.11	$3.19 \times 10^{-2}$
Ctsk	chr3:95499209-95509387	4.65	3.52	-1.13	$1.30 \times 10^{-2}$
Nceh1	chr3:27183003-27244911	3.33	2.2	-1.14	$1.30 \times 10^{-2}$
Apba3, Mir3057	chr10:81267855-81291581	4.83	3.67	-1.16	$1.30 \times 10^{-2}$
Mmp12	chr9:7347373-7360461	6.58	5.42	-1.16	$1.30 \times 10^{-2}$
Ccl9	chr11:83572916-83578636	5.58	4.4	-1.18	$1.30 \times 10^{-2}$
Trpv2	chr11:62574485-62600467	5.07	3.85	-1.23	$1.30 \times 10^{-2}$
Ccl6	chr11:83582060-83623693	7.45	6.21	-1.24	$1.30 \times 10^{-2}$

Cd300lb	chr11:114922778-114934386	4.04	2.8	-1.24	$4.75 \times 10^{-2}$
Atf3	chr1:191170296-191183333	4.5	3.23	-1.28	$1.30 \times 10^{-2}$
Arhgap25	chr6:87458544-87533259	4.09	2.81	-1.28	$2.21 \times 10^{-2}$
Ubd	chr17:37193891-37196101	6.15	4.87	-1.28	$4.75 \times 10^{-2}$
Blnk	chr19:40928926-40994535	3.78	2.48	-1.3	$4.07 \times 10^{-2}$
Bok	chr1:93685693-93695762	4.78	3.44	-1.34	$2.21 \times 10^{-2}$
Cd300a	chr11:114890040-114906474	3.2	1.84	-1.36	$1.30 \times 10^{-2}$
Cd52	chr4:134093537-134095073	6.59	5.23	-1.36	$1.30 \times 10^{-2}$
Lgals3	chr14:47373859-47386167	8.2	6.83	-1.37	$1.30 \times 10^{-2}$
Thbs1	chr2:118111838-118127139	7.4	5.98	-1.41	$1.30 \times 10^{-2}$
Specc1	chr11:61956762-62223013	2.8	1.35	-1.44	$1.30 \times 10^{-2}$
Atp6v0d2	chr4:19876837-19922566	4.84	3.36	-1.48	$1.30 \times 10^{-2}$
C5ar1	chr7:16246742-16259540	4.54	3.05	-1.49	$1.30 \times 10^{-2}$
Lcn2	chr2:32384636-32387739	5.85	4.31	-1.54	$1.30 \times 10^{-2}$
Hmgcs2	chr3:98280430-98310738	5.12	3.58	-1.54	$1.30 \times 10^{-2}$
Rnf128	chrX:139563339-139673145	3.29	1.63	-1.67	$2.21 \times 10^{-2}$
Mt2	chr8:94172617-94173567	9.84	8.12	-1.71	$1.30 \times 10^{-2}$
Slc38a3	chr9:107651154-107668968	3.49	1.78	-1.71	$1.30 \times 10^{-2}$
Ass1	chr2:31470269-31520670	4.33	2.5	-1.83	$1.30 \times 10^{-2}$
Mir6537, Pou2f2	chr7:25090634-25132462	2.71	0.65	-2.06	$1.30 \times 10^{-2}$
Acta1	chr8:123891757-123894775	6.91	4.84	-2.07	$1.30 \times 10^{-2}$
Itih4	chr14:30886475-30901986	2.33	0.07	-2.27	$1.30 \times 10^{-2}$
Itih3	chr14:30908573-30923587	1.9	-0.4	-2.3	$1.30 \times 10^{-2}$
Cuzd1	chr7:131308553-131322292	3.96	1.52	-2.44	$1.30 \times 10^{-2}$
Spp1	chr5:104435110-104441053	4.65	2.14	-2.51	$1.30 \times 10^{-2}$
Prom2	chr2:127526952-127541417	1.92	-0.6	-2.52	$1.30 \times 10^{-2}$
Ttr	chr18:20665249-20674326	4.93	2.27	-2.66	$1.30 \times 10^{-2}$
Hpd	chr5:123171806-123182686	3.06	0.35	-2.71	$2.21 \times 10^{-2}$
Apoh	chr11:108395296-108414396	3.46	0.68	-2.79	$1.30 \times 10^{-2}$
Gnmt	chr17:46725663-46729165	3.28	0.45	-2.83	$1.30 \times 10^{-2}$

Hpx	chr7:105591610-105600116	4.13	1.25	-2.88	$1.30 \times 10^{-2}$
Fabp1	chr6:71199887-71205023	6.41	3.49	-2.93	$1.30 \times 10^{-2}$
Mug1, Mug2	chr6:121781824-122085967	2.92	-0.08	-3	$2.21 \times 10^{-2}$
Cyp2c29, Cyp2c39	chr19:39287084-39568529	2.85	-0.29	-3.14	$1.30 \times 10^{-2}$
Cyp2c70	chr19:40153360-40187286	2.9	-0.35	-3.24	$1.30 \times 10^{-2}$
Itih2	chr2:10094590-10130683	1.93	-1.37	-3.3	$1.30 \times 10^{-2}$
Apoa1	chr9:46228629-46230469	6.07	2.63	-3.44	$1.30 \times 10^{-2}$
Arg1	chr10:24915206-24927470	2.95	-0.51	-3.46	$1.30 \times 10^{-2}$
Kng1	chr16:23058299-23082078	2.93	-0.55	-3.48	$1.30 \times 10^{-2}$
Aldob	chr4:49535994-49549483	3.72	0.23	-3.49	$1.30 \times 10^{-2}$
Ambp	chr4:63143278-63154142	3.8	0.31	-3.49	$1.30 \times 10^{-2}$
Pah	chr10:87521794-87584137	1.65	-1.88	-3.53	$1.30 \times 10^{-2}$
Slco1b2	chr6:141629517-141686635	1.24	-2.35	-3.59	$4.75 \times 10^{-2}$
Rdh7	chr10:127884026-127888733	2.05	-1.58	-3.63	$1.30 \times 10^{-2}$
Apof	chr10:128267996-128270151	1.7	-1.94	-3.64	$4.75 \times 10^{-2}$
Gc	chr5:89417510-89457898	4.75	1.08	-3.67	$1.30 \times 10^{-2}$
Itih1	chr14:30929179-30943289	1	-2.71	-3.71	$3.19 \times 10^{-2}$
Azgp1	chr5:137981520-137990232	2.32	-1.41	-3.73	$4.75 \times 10^{-2}$
Akr1c6	chr13:4434342-4457530	2.87	-0.87	-3.74	$4.75 \times 10^{-2}$
Bhmt	chr13:93616890-93637758	3.96	0.17	-3.79	$1.30 \times 10^{-2}$
Alb	chr5:90460888-90476603	8.5	4.62	-3.88	$1.30 \times 10^{-2}$
Cyp3a11, Cyp3a41a	chr5:145694048-145879854	4.16	0.27	-3.89	$1.30 \times 10^{-2}$
Pzp	chr6:128438756-128526720	2.79	-1.11	-3.9	$1.30 \times 10^{-2}$
Plg	chr17:12378608-12419384	3.05	-0.87	-3.92	$1.30 \times 10^{-2}$
Rgn	chrX:20549817-20562087	2.67	-1.29	-3.96	$1.30 \times 10^{-2}$
Fgg	chr3:83007895-83015049	4.71	0.74	-3.97	$1.30 \times 10^{-2}$
Fgb	chr3:83042304-83049790	4.87	0.88	-3.99	$1.30 \times 10^{-2}$
F2	chr2:91625319-91636457	2.86	-1.16	-4.02	$1.30 \times 10^{-2}$
Gjb1	chrX:101376375-101385629	1.99	-2.12	-4.11	$4.07 \times 10^{-2}$
Apob	chr12:7977676-8016839	1.88	-2.46	-4.34	$1.30 \times 10^{-2}$

---

Dio3os, Mir1247	chr12:110275384-110278656	4.86	0.42	-4.43	$1.30 \times 10^{-2}$
Fga	chr3:83026152-83033617	4.17	-0.42	-4.59	$1.30 \times 10^{-2}$
Cps1	chr1:67123026-67231267	2.66	-1.94	-4.6	$1.30 \times 10^{-2}$
Mat1a	chr14:41105032-41124428	2.96	-1.67	-4.62	$1.30 \times 10^{-2}$
Spint4	chr2:164698500-164702448	0.01	-10	-10.01	$2.21 \times 10^{-2}$
Defb43	chr14:63011770-63018088	0.35	-10	-10.35	$1.30 \times 10^{-2}$
Bsph2	chr7:13554865-13571067	0.43	-10	-10.43	$1.30 \times 10^{-2}$
Rnase12	chr14:51056697-51057242	0.84	-10	-10.84	$1.30 \times 10^{-2}$
Defb37	chr8:18986232-18991055	1.5	-10	-11.5	$1.30 \times 10^{-2}$
AY761185	chr8:20943693-20944748	2.11	-10	-12.11	$1.30 \times 10^{-2}$
Defb28	chr2:152518254-152521447	3.29	-10	-13.29	$1.30 \times 10^{-2}$
Defb38	chr8:19023463-19026529	3.44	-10	-13.44	$2.21 \times 10^{-2}$

**Table S2.** GSEA analysis: summary of top enriched gene sets in the gonadal adipose tissue of mice exposed perinatally to 0.2 mg/kg body weight BDE-47.

NAME	SIZE	Enrichment score	Normalised enrichment score	NOM <i>p</i> -val	FDR <i>q</i> -val	FWER <i>p</i> -val	RANK AT MAX
HALLMARK_COAGULATION	108	-0.7925364	-1.7812736	0	0.004101	0.004	582
HALLMARK_XENOBIOTIC_METABOLISM	167	-0.72691166	-1.6750236	0	0.027806	0.055	446
HALLMARK_BILE_ACID_METABOLISM	87	-0.72079074	-1.5710769	0.0035714	0.098446	0.256	366
HALLMARK_COMPLEMENT	143	-0.60537505	-1.3765348	0.0503433	0.676869	0.942	2331
REACTOME_SMOOTH_MUSCLE_CONTRACTION	20	0.75713444	1.90847	0.06639	1	1	253
MEINHOLD_OVARIAN_CANCER_LOW_GRADE_UP	16	0.7323402	1.7202928	0.1065292	1	1	31
HORTON_SREBF_TARGETS	20	0.7254165	1.7181175	0.092511	1	1	1471
REACTOME_MUSCLE_CONTRACTION	30	0.6751347	1.6108487	0.1088083	1	1	456
NADLER_OBESITY_DN	44	0.66954297	1.5260774	0.0617284	1	1	1884
REACTOME_CHOLESTEROL_BIOSYNTHESIS	18	0.64574134	1.5223196	0.1439114	1	1	1672
HSIAO_LIVER_SPECIFIC_GENES	172	-0.883853	-2.028348	0	0	0	488
CAIRO_LIVER_DEVELOPMENT_DN	172	-0.8234503	-1.926647	0	0	0	673
SU_LIVER	38	-0.92811877	-1.9205562	0	0	0	429
CHIANG_LIVER_CANCER_SUBCLASS_PROLIFERATION_DN	129	-0.8457685	-1.8965874	0	0.00178	0.007	429
OHGUCHI_LIVER_HNF4A_TARGETS_DN	82	-0.8383536	-1.8692034	0	0.005103	0.025	968
YAMASHITA_LIVER_CANCER_STEM_CELL_DN	49	-0.8607048	-1.8556718	0	0.008842	0.051	404

KEGG_COMPLEMENT_AND_COAGULATION_CASCADES	47	-0.85020536	-1.8207873	0	0.036708	0.23	480
LEE_LIVER_CANCER_SURVIVAL_UP	118	-0.80631876	-1.8192244	0	0.034545	0.243	446
HOSHIDA_LIVER_CANCER_SUBCLASS_S3	209	-0.77290404	-1.80562	0	0.056649	0.399	643
BIOCARTA_INTRINSIC_PATHWAY	20	-0.89908606	-1.8001451	0.0026631	0.063124	0.471	446
REACTOME_FORMATION_OF_FIBRIN_CLOT_CLOTTING_CASCADE	22	-0.8958861	-1.7939211	0	0.070832	0.548	480
KONDO_PROSTATE_CANCER_WITH_H3K27ME3	47	-0.8267031	-1.7826784	0.0011792	0.092976	0.673	682
SERVITJA_ISLET_HNF1A_TARGETS_DN	64	-0.82448655	-1.7759959	0	0.107639	0.758	673
LEE_LIVER_CANCER_CIPROFIBRATE_DN	34	-0.84275985	-1.7544557	0.004908	0.191406	0.924	550
LEE_LIVER_CANCER	30	-0.86145705	-1.7486897	0.0012821	0.208157	0.948	397
GO_BLOOD_MICROPARTICLE	71	-0.8602677	-1.8951263	0	0.010074	0.01	272
GO_ACUTE_PHASE_RESPONSE	24	-0.8971937	-1.8471518	0	0.05451	0.101	335
GO_SERINE_TYPE_ENDOPEPTIDASE_INHIBITOR_ACTIVITY	46	-0.8429749	-1.8244396	0	0.105001	0.264	242
GO_LIPOPROTEIN_PARTICLE_RECEPTOR_BINDING	16	-0.9261174	-1.814157	0	0.115658	0.371	272
GO_POSITIVE_REGULATION_OF_COAGULATION	24	-0.88361436	-1.8138926	0.001297	0.092931	0.373	480
GO_ACUTE_INFLAMMATORY_RESPONSE	41	-0.8442391	-1.8065432	0	0.104209	0.467	457
GO_REGULATION_OF_COAGULATION	74	-0.8127593	-1.785235	0	0.188057	0.728	786
GO_BLOOD_COAGULATION_FIBRIN_CLOT_FORMATION	18	-0.9093529	-1.7776664	0	0.210428	0.81	480
GO_NEGATIVE_REGULATION_OF_COAGULATION	42	-0.84488016	-1.7738291	0.0012438	0.211958	0.848	233