

Supplemental Materials

Gene Expression Alterations in Immune System Pathways in the Thymus Following Exposure to Immunosuppressive Chemicals

Rachel Frawley¹, Kimber White, Jr.², Ronnetta Brown², Deborah Musgrove², Nigel Walker¹, Dori Germolec¹

¹ National Institutes of Environmental Health Sciences, National Toxicology Program, 111 T.W. Alexander Drive, Research Triangle Park, NC 27709, ²Department of Pharmacology and Toxicology, Virginia Commonwealth University, Richmond, VA 23298

Table of Contents

<u>Table</u>	<u>Title</u>	<u>Page Number</u>
Table 1	List Of All Genes On The Custom Immune Function Sentrix Array Matrix	3
Table 2	List of All Genes Differentially Expressed by DEX, DES, CPS and TCDD	23
Table 3A	Global Pathway Comparison for DEX, DES, CPS and TCDD	34
Table 3B	Pathways and Functions Represented by Genes Differentially Expressed by Multiple Chemicals	35
Table 3C	Pathways and Functions Represented by Genes Differentially Expressed by a Single Chemical	37
Table 4	Ingenuity Pathway Analysis Function Comparison for DEX, DES, CPS and TCDD	40

Supplemental Material, Table 1

List Of All Genes On The Custom Immune Function Sentrix Array Matrix

Gene or Transcript ID	RefSeq ID	Name
Abl1	NM_009594	Mus musculus v-abl Abelson murine leukemia oncogene 1 (Abl1), mRNA.
Acox1	NM_015729	Mus musculus acyl-Coenzyme A oxidase 1, palmitoyl (Acox1), mRNA.
Acp5	NM_007388	Mus musculus acid phosphatase 5, tartrate resistant (Acp5), mRNA.
Adprt12	NM_009632	Mus musculus ADP-ribosyltransferase (NAD ⁺ ; poly(ADP-ribose) polymerase)-like 2 (Adprt12), mRNA.
Agpt	NM_009640	Mus musculus angiopoietin (Agpt), mRNA.
Agpt2	NM_013716	Mus musculus angiopoietin 2 (Agpt2), mRNA.
Ahr	NM_013464	Mus musculus aryl-hydrocarbon receptor (Ahr), mRNA.
Ahrr	NM_009644.1	Mus musculus aryl-hydrocarbon receptor repressor (Ahrr)
AI324046	NM_198640	Mus musculus expressed sequence AI324046 (AI324046), mRNA.
Aicda	NM_009645	Mus musculus activation-induced cytidine deaminase (Aicda), mRNA.
Aire	NM_009646	Mus musculus autoimmune regulator (autoimmune polyendocrinopathy candidiasis ectodermal dystrophy) (Aire), mRNA.
Akt1	NM_009652.1	Mus musculus thymoma viral proto-oncogene 1 (Akt1), mRNA.
Aldh1a3	NM_053080	Mus musculus aldehyde dehydrogenase family 1, subfamily A3 (Aldh1a3), mRNA.
Aldh2	NM_009656.1	Mus musculus aldehyde dehydrogenase 2, mitochondrial (Aldh2)
Aldh3a1	NM_007436	Mus musculus aldehyde dehydrogenase family 3, subfamily A1 (Aldh3a1), mRNA.
Ang3	NM_007449	Mus musculus angiogenin, ribonuclease A family, member 3 (Ang3), mRNA.
Apaf1	NM_009684	Mus musculus apoptotic protease activating factor 1 (Apaf1)
Apoe	NM_009696.2	Mus musculus apolipoprotein E (Apoe), mRNA.
Areg	NM_009704	Mus musculus amphiregulin (Areg), mRNA.
Arhgef7	NM_017402.1	Mus musculus Rho guanine nucleotide exchange factor (GEF7)
Arhh	XM_359315	Mus musculus ras homolog gene family, member H (Arhh), mRNA
Arnt	NM_009709.1	Mus musculus aryl hydrocarbon receptor nuclear translocator (Arnt)
Atf2	NM_009715	Mus musculus activating transcription factor 2 (Atf2), mRNA.
Atf3	NM_007498	Mus musculus activating transcription factor 3 (Atf3), mRNA.
AU044919	NM_212451	Mus musculus expressed sequence AU044919 (AU044919), mRNA
AY414638	NM_010125	Mus musculus E74-like factor 5 (Elf5)
B2m	NM_009735	Mus musculus beta-2 microglobulin (B2m), mRNA.
Bad	NM_007522	Mus musculus Bcl-associated death promoter (Bad), mRNA.
Bag1	NM_009736	Mus musculus Bcl2-associated athanogene 1 (Bag1), mRNA.
Baiap1	NM_007464	Mus musculus BAI1-associated protein 1 (Baiap1), mRNA.
Bak1	NM_007523	Mus musculus BCL2-antagonist/killer 1 (Bak1), mRNA.
Bax	NM_007527	Mus musculus Bcl2-associated X protein (Bax), mRNA.
Bbc3	NM_133234.1	Mus musculus Bcl-2 binding component 3 (Bbc3)
Bcap29	NM_007530	Mus musculus B-cell receptor-associated protein 29 (Bcap29), mRNA.

Supplemental Material, Table 1

List Of All Genes On The Custom Immune Function Sentrix Array Matrix

Gene or Transcript ID	RefSeq ID	Name
Bcap37	NM_007531	Mus musculus B-cell receptor-associated protein 37 (Bcap37), mRNA.
Bcl10	NM_009740	Mus musculus B-cell leukemia/lymphoma 10 (Bcl10), mRNA.
Bcl2	NM_009741	Mus musculus B-cell leukemia/lymphoma 2 (Bcl2), mRNA.
Bcl2a1a	NM_009742	Mus musculus B-cell leukemia/lymphoma 2 related protein A1a (Bcl2a1a), mRNA.
Bcl2a1b	NM_007534	Mus musculus B-cell leukemia/lymphoma 2 related protein A1b (Bcl2a1b), mRNA.
Bcl2l	NM_009743	Mus musculus Bcl2-like (Bcl2l), mRNA.
Bcl2l10	NM_013479	Mus musculus Bcl2-like 10 (Bcl2l10), mRNA.
Bcl2l11v1	NM_207680	Mus musculus BCL2-like 11 (apoptosis facilitator) (Bcl2l11) transcript variant 1, mRNA.
Bcl2l11v2	NM_207681	Mus musculus BCL2-like 11 (apoptosis facilitator) (Bcl2l11), transcript variant 2, mRNA.
Bcl2l11v3	NM_009754	Mus musculus BCL2-like 11 (apoptosis facilitator) (Bcl2l11), mRNA transcript variant 3
Bcl2l2	NM_007537	Mus musculus Bcl2-like 2 (Bcl2l2), mRNA.
Bcl6	NM_009744.2	Mus musculus B-cell leukemia/lymphoma 6 (Bcl6), mRNA.
Bcl6b	NM_007528	Mus musculus B-cell CLL/lymphoma 6, member B (Bcl6b), mRNA.
Bcl7b	NM_009745	Mus musculus B-cell CLL/lymphoma 7B (Bcl7b), mRNA.
Bcl7c	NM_009746	Mus musculus B-cell CLL/lymphoma 7C (Bcl7c), mRNA.
Bid	NM_007544.2	Mus musculus BH3 interacting domain death agonist (Bid), mRNA.
Biklk	NM_007546	Mus musculus Bcl2-interacting killer-like (Biklk), mRNA.
Birc3	XM_125133	Mus musculus similar to Baculoviral IAP repeat-containing protein 3 (Inhibitor of apoptosis protein 2) (MIAP2) (MIAP-2) (Birc3), mRNA.
Blk	NM_007549	Mus musculus B lymphoid kinase (Blk), mRNA.
Blnk	NM_008528	Mus musculus B-cell linker (Blnk), mRNA.
Blr1	NM_007551	Mus musculus Burkitt lymphoma receptor 1 (Blr1), mRNA.
Bmpr2	NM_007561	Mus musculus bone morphogenic protein receptor, type II (serine/threonine kinase) (Bmpr2), mRNA.
Bok	NM_016778	Mus musculus Bcl-2-related ovarian killer protein (Bok), mRNA
Bst1	NM_009763	Mus musculus bone marrow stromal cell antigen 1 (Bst1)
Btc	NM_007568	Mus musculus betacellulin, epidermal growth factor family member (Btc), mRNA.
Btk	NM_013482	Mus musculus Bruton agammaglobulinemia tyrosine kinase (Btk), mRNA.
Btn1a1	NM_013483	Mus musculus butyrophilin, subfamily 1, member A1 (Btn1a1), mRNA.
C1qa	NM_007572	Mus musculus complement component 1, q subcomponent, alpha polypeptide (C1qa), mRNA.
C1qr1	NM_010740	Mus musculus complement component 1, q subcomponent, receptor 1 (C1qr1), mRNA.
C2ta	NM_007575	Mus musculus class II transactivator (C2ta), mRNA.
C3	NM_009778	Mus musculus complement component 3 (C3), mRNA.
C4	NM_009780	Mus musculus complement component 4 (within H-2S) (C4), mRNA.
Capn2	NM_009794	Mus musculus calpain 2 (Capn2), mRNA.
Car2	NM_009801	Mus musculus carbonic anhydrase 2 (Car2), mRNA.
Card15	NM_145857.1	Mus musculus caspase recruitment domain family, member 15 (Card15)
Casp1	NM_009807.1	Mus musculus caspase 1 (Casp1), mRNA.

Supplemental Material, Table 1

List Of All Genes On The Custom Immune Function Sentrix Array Matrix

Gene or Transcript ID	RefSeq ID	Name
Casp14	NM_009809	Mus musculus caspase 14 (Casp14), mRNA.
Casp2	NM_007610	Mus musculus caspase 2 (Casp2), mRNA.
Casp3	NM_007393	Mus musculus caspase 3, apoptosis related cysteine protease (Casp3), mRNA.
Casp3	NM_009810	Mus musculus caspase 3, apoptosis related cysteine protease (Casp3), mRNA.
Casp4	NM_007609	Mus musculus caspase 4, apoptosis-related cysteine protease (Casp4), mRNA.
Casp6	NM_009811	Mus musculus caspase 6 (Casp6), mRNA.
Casp7	NM_007611.1	Mus musculus caspase 7 (Casp7), mRNA.
Casp8	XM_129752.1	Mus musculus caspase 8 (Casp8)
Casp8ap2	NM_011997	Mus musculus caspase 8 associated protein 2 (Casp8ap2), mRNA.
Casp9	NM_015733	Mus musculus caspase 9 (Casp9), mRNA.
Ccl1	NM_011329	Mus musculus chemokine (C-C motif) ligand 1 (Ccl1), mRNA.
Ccl11	NM_011330	Mus musculus small chemokine (C-C motif) ligand 11 (Ccl11), mRNA.
Ccl12	NM_011331	Mus musculus chemokine (C-C motif) ligand 12 (Ccl12), mRNA.
Ccl17	NM_011332	Mus musculus chemokine (C-C motif) ligand 17 (Ccl17), mRNA.
Ccl19	NM_011888	Mus musculus chemokine (C-C motif) ligand 19 (Ccl19), mRNA.
Ccl2	NM_011333	Mus musculus chemokine (C-C motif) ligand 2 (Ccl2), mRNA.
Ccl21a	NM_011335	Mus musculus chemokine (C-C motif) ligand 21a (leucine) (Ccl21a), mRNA.
Ccl22	NM_009137	Mus musculus chemokine (C-C motif) ligand 22 (Ccl22), mRNA.
Ccl24	NM_019577	Mus musculus chemokine (C-C motif) ligand 24 (Ccl24), mRNA.
Ccl25	NM_009138	Mus musculus chemokine (C-C motif) ligand 25 (Ccl25), mRNA.
Ccl3	NM_011337	Mus musculus chemokine (C-C motif) ligand 3 (Ccl3), mRNA.
Ccl4	NM_013652	Mus musculus chemokine (C-C motif) ligand 4 (Ccl4), mRNA.
Ccl5	NM_013653	Mus musculus chemokine (C-C motif) ligand 5 (Ccl5), mRNA.
Ccl6	NM_009139	Mus musculus chemokine (C-C motif) ligand 6 (Ccl6), mRNA.
Ccl7	NM_013654	Mus musculus chemokine (C-C motif) ligand 7 (Ccl7), mRNA.
Ccl8	NM_021443	Mus musculus chemokine (C-C motif) ligand 8 (Ccl8), mRNA.
Ccl9	NM_011338	Mus musculus chemokine (C-C motif) ligand 9 (Ccl9), mRNA.
Ccna2	NM_009828.1	Mus musculus cyclin A2 (Ccna2)
Ccnd1	NM_007631.1	Mus musculus cyclin D1 (Ccnd1), mRNA.
Ccnd2	NM_009829	Mus musculus cyclin D2 (Ccnd2), mRNA.
Ccnd3	NM_007632	Mus musculus cyclin D3 (Ccnd3), mRNA.
Ccne1	NM_007633	Mus musculus cyclin E1 (Ccne1), mRNA.
Ccnh	NM_023243.2	Mus musculus cyclin H (Ccnh)
Ccni	NM_017367	Mus musculus cyclin I (Ccni), mRNA.
Ccr1	NM_009912.2	Mus musculus chemokine (C-C motif) receptor 1 (Ccr1)
Ccr2	NM_009915	Mus musculus chemokine (C-C) receptor 2 (Ccr2), mRNA.
Ccr3	NM_009914.2	Mus musculus chemokine (C-C) receptor 3 (Ccr3)

Supplemental Material, Table 1

List Of All Genes On The Custom Immune Function Sentrix Array Matrix

Gene or Transcript ID	RefSeq ID	Name
Ccr4	NM_009916	Mus musculus chemokine (C-C motif) receptor 4 (Ccr4), mRNA.
Ccr5	NM_009917	Mus musculus chemokine (C-C motif) receptor 5 (Ccr5), mRNA.
Ccr6	NM_009835	Mus musculus chemokine (C-C motif) receptor 6 (Ccr6), mRNA.
Ccr7	NM_007719	Mus musculus chemokine (C-C motif) receptor 7 (Ccr7), mRNA.
Ccr7	NM_015811	Mus musculus chemokine (C-C motif) receptor 7 (Ccr7), mRNA.
Ccr8	NM_007720	Mus musculus chemokine (C-C motif) receptor 8 (Ccr8), mRNA.
Ccr9	NM_009913.2	Mus musculus chemokine (C-C motif) receptor 9 (Ccr9)
Ccr12	NM_017466	Mus musculus chemokine (C-C motif) receptor-like 2 (Ccr12), mRNA.
Cct8	NM_009840	Mus musculus chaperonin subunit 8 (theta) (Cct8), mRNA.
Cd14	NM_009841	Mus musculus CD14 antigen (Cd14), mRNA.
Cd151	NM_009842	Mus musculus CD151 antigen (Cd151), mRNA.
Cd19	NM_009844	Mus musculus CD19 antigen (Cd19), mRNA.
Cd1d1	NM_007639	Mus musculus CD1d1 antigen (Cd1d1), mRNA.
Cd22	NM_009845	Mus musculus CD22 antigen (Cd22), mRNA.
Cd244	NM_018729	Mus musculus CD244 natural killer cell receptor 2B4 (Cd244), mRNA
Cd24a	NM_009846	Mus musculus CD24a antigen (Cd24a), mRNA.
Cd28	NM_007642	Mus musculus CD28 antigen (Cd28), mRNA.
Cd36	NM_007643	Mus musculus CD36 antigen (Cd36), mRNA.
Cd38	NM_007646	Mus musculus CD38 antigen (Cd38), mRNA.
Cd3d	NM_013487	Mus musculus CD3 antigen, delta polypeptide (Cd3d), mRNA.
Cd3e	NM_007648	Mus musculus CD3 antigen, epsilon polypeptide (Cd3e), mRNA.
Cd3g	NM_009850	Mus musculus CD3 antigen, gamma polypeptide (Cd3g), mRNA.
Cd3z	NM_031162	Mus musculus CD3 antigen, zeta polypeptide (Cd3z), mRNA.
Cd4	NM_009812	Mus musculus CD4 antigen (Cd4), mRNA.
Cd4	NM_013488	Mus musculus CD4 antigen (Cd4), mRNA.
Cd44	NM_009851	Mus musculus CD44 antigen (Cd44), mRNA.
Cd48	NM_007649.2	Mus musculus CD48 antigen (Cd48), mRNA.
Cd5	NM_007650	Mus musculus CD5 antigen (Cd5), mRNA.
Cd52	NM_013706	Mus musculus CD52 antigen (Cd52), mRNA.
cd53	NM_007651	Mus musculus CD53 antigen (Cd53), mRNA.
Cd6	NM_009852	Mus musculus CD6 antigen (Cd6), mRNA.
Cd68	NM_009853.1	Mus musculus CD68 antigen (Cd68), mRNA.
Cd69	XM_132882	Mus musculus CD69 antigen (Cd69), mRNA.
Cd7	NM_009854	Mus musculus CD7 antigen (Cd7), mRNA.
Cd72	NM_007654	Mus musculus CD72 antigen (Cd72), mRNA.
Cd79b	NM_008339	Mus musculus CD79B antigen (Cd79b), mRNA.
Cd80	NM_009855	Mus musculus CD80 antigen (Cd80), mRNA.

Supplemental Material, Table 1

List Of All Genes On The Custom Immune Function Sentrix Array Matrix

Gene or Transcript ID	RefSeq ID	Name
Cd81	NM_133655	Mus musculus CD 81 antigen (Cd81), mRNA.
Cd83	NM_009856	Mus musculus CD83 antigen (Cd83), mRNA.
Cd83	NM_013486	Mus musculus CD83 antigen (Cd83), mRNA.
Cd8a	XM_132621	Mus musculus CD8 antigen, alpha chain (Cd8a), mRNA.
Cd8b	NM_009858	Mus musculus CD8 antigen, beta chain (Cd8b), mRNA.
Cd8b	NM_013929	Mus musculus CD8 antigen, beta chain (Cd8b), mRNA.
Cdc25a	NM_007658.1	Mus musculus cell division cycle 25 homolog A (<i>S. cerevisiae</i>) (Cdc25a), mRNA.
Cdk2	NM_016756	Mus musculus cyclin-dependent kinase 2 (Cdk2), mRNA.
Cdk4	NM_009870.2	Mus musculus cyclin-dependent kinase 4 (Cdk4)
Cdk5r	NM_009871	Mus musculus cyclin-dependent kinase 5, regulatory subunit (p35) (Cdk5r), mRNA.
Cdk7	XM_203622.2	Mus musculus cyclin-dependent kinase 7 (homolog of <i>Xenopus</i> MO15 cdk-activating kinase) (Cdk7)
Cdkn1a	NM_007669	Mus musculus cyclin-dependent kinase inhibitor 1A (P21) (Cdkn1a), mRNA.
Cdkn1b	NM_009875	Mus musculus cyclin-dependent kinase inhibitor 1B (P27) (Cdkn1b), mRNA.
Cdkn1c	NM_009876	Mus musculus cyclin-dependent kinase inhibitor 1C (P57) (Cdkn1c), mRNA.
Cdkn2a	NM_009871	Mus musculus cyclin-dependent kinase 5, regulatory subunit (p35) (Cdk5r)
Cdkn2d	NM_009878	Mus musculus cyclin-dependent kinase inhibitor 2D (p19, inhibits CDK4) (Cdkn2d), mRNA.
Cebpa	NM_007678	Mus musculus CCAAT/enhancer binding protein (C/EBP), alpha (Cebpa),
Cebpb	NM_009883	Mus musculus CCAAT/enhancer binding protein (C/EBP), beta (Cebpb), mRNA.
Cebpb	NM_033601	Mus musculus CCAAT/enhancer binding protein (C/EBP), beta (Cebpb), mRNA.
Cflar	NM_009805	Mus musculus CASP8 and FADD-like apoptosis regulator (Cflar), mRNA.
Cflar	NM_010175	Mus musculus CASP8 and FADD-like apoptosis regulator (Cflar), mRNA.
Chuk	NM_007700	Mus musculus conserved helix-loop-helix ubiquitous kinase (Chuk), mRNA.
Clecsf8	NM_010819	Mus musculus C-type (calcium dependent, carbohydrate recognition domain) lectin, superfamily member 8 (Clecsf8), mRNA.
Clk4	NM_007714	Mus musculus CDC like kinase 4 (Clk4), mRNA.
Cmkor1	NM_007722	Mus musculus chemokine orphan receptor 1 (Cmkor1), mRNA.
Comt	NM_007744	Mus musculus catechol-O-methyltransferase (Comt), mRNA.
Cr2	NM_007758	Mus musculus complement receptor 2 (Cr2), mRNA.
Crabp1	NM_013496.1	Mus musculus cellular retinoic acid binding protein I (Crabp1), mRNA.
Creb1	NM_009952	Mus musculus cAMP responsive element binding protein 1 (Creb1),
Crisp3	NM_009639	Mus musculus cysteine-rich secretory protein 3 (Crisp3), mRNA.
Crisp3	NM_009655	Mus musculus cysteine-rich secretory protein 3 (Crisp3), mRNA
Crp	NM_007768	Mus musculus C-reactive protein, petaxin related (Crp), mRNA
Cryz	NM_009968	Mus musculus crystallin, zeta (Cryz), mRNA.
Csf1	NM_007778	Mus musculus colony stimulating factor 1 (macrophage) (Csf1), mRNA.
Csf1r	NM_007779	Mus musculus colony stimulating factor 1 receptor (Csf1r), mRNA.

Supplemental Material, Table 1

List Of All Genes On The Custom Immune Function Sentrix Array Matrix

Gene or Transcript ID	RefSeq ID	Name
Csf2	NM_009969.2	Mus musculus colony stimulating factor 2 (granulocyte-macrophage) (Csf2), mRNA.
Csf2ra	NM_009970	Mus musculus colony stimulating factor 2 receptor, alpha, low-affinity (granulocyte-macrophage) (Csf2ra), mRNA.
Csf3	NM_009971	Mus musculus colony stimulating factor 3 (granulocyte) (Csf3), mRNA.
Csf3r	NM_007782.1	Mus musculus colony stimulating factor 3 receptor (granulocyte) (Csf3r)
Csk	NM_007783	Mus musculus c-src tyrosine kinase (Csk), mRNA.
Ctf1	NM_007795	Mus musculus cardiotrophin 1 (Ctf1), mRNA.
CTLA2A	NM_007796	Mus musculus cytotoxic T lymphocyte-associated protein 2 alpha (Ctla2a)
Ctla4	NM_009843.2	Mus musculus cytotoxic T-lymphocyte-associated protein 4 (Ctla4), mRNA.
Ctsd	NM_009983	Mus musculus cathepsin D (Ctsd), mRNA.
Cx3cl1	NM_009142	Mus musculus chemokine (C-X3-C motif) ligand 1 (Cx3cl1), mRNA.
Cx3cr1	NM_009987	Mus musculus chemokine (C-X3-C) receptor 1 (Cx3cr1), mRNA.
Cxcl10	NM_021274	Mus musculus chemokine (C-X-C motif) ligand 10 (Cxcl10)
Cxcl10	NM_021274	Mus musculus chemokine (C-X-C motif) ligand 10 (Cxcl10), mRNA.
Cxcl11	NM_019494	Mus musculus chemokine (C-X-C motif) ligand 11 (Cxcl11), mRNA.
Cxcl12	NM_013655.2	Mus musculus chemokine (C-X-C motif) ligand 12 (Cxcl12), transcript variant 2, mRNA.
Cxcl13	NM_018866	Mus musculus chemokine (C-X-C motif) ligand 13 (Cxcl13), mRNA.
Cxcl2	NM_009140	Mus musculus chemokine (C-X-C motif) ligand 2 (Cxcl2), mRNA.
Cxcl4	NM_019932	Mus musculus chemokine (C-X-C motif) ligand 4 (Cxcl4), mRNA.
Cxcl5	NM_009141	Mus musculus chemokine (C-X-C motif) ligand 5 (Cxcl5), mRNA
Cxcl9	NM_008599	Mus musculus chemokine (C-X-C motif) ligand 9 (Cxcl9), mRNA.
Cxcr3	NM_009910	Mus musculus chemokine (C-X-C motif) receptor 3 (Cxcr3), mRNA.
Cxcr4	NM_009911	Mus musculus chemokine (C-X-C motif) receptor 4 (Cxcr4), mRNA.
Cxcr6	NM_030712.1	Mus musculus chemokine (C-X-C motif) receptor 6 (Cxcr6),
Cyp17a1	NM_007809	Mus musculus cytochrome P450, family 17, subfamily a, polypeptide 1 Cyp17a1
Cyp1a1	NM_009992	Mus musculus cytochrome P450, family 1, subfamily a, polypeptide 1 (Cyp1a1), mRNA.
Cyp1a2	NM_009993	Mus musculus cytochrome P450, family 1, subfamily a, polypeptide 2
Cyp1b1	NM_009994	Mus musculus cytochrome P450, family 1, subfamily b, polypeptide 1 (Cyp1b1), mRNA.
Cyp2e1	NM_021282	Mus musculus cytochrome P450, family 2, subfamily e, polypeptide 1 Cyp2e1
D17H6S56E-5	NM_033075	Mus musculus DNA segment, Chr 17, human D6S56E 5 (D17H6S56E-5), mRNA.
D17Wsu104e	NM_008529	Mus musculus DNA segment, Chr 17, Wayne State University 104, expressed (D17Wsu104e), mRNA.
Daxx	NM_007829	Mus musculus Fas death domain-associated protein (Daxx), mRNA.
Ddit3	NM_007837	Mus musculus DNA-damage inducible transcript 3 (Ddit3), mRNA.
Dedd	NM_011615	Mus musculus death effector domain-containing (Dedd), mRNA.
Dntt	NM_009345	Mus musculus deoxynucleotidyltransferase, terminal (Dntt), mRNA.
Dsip1	NM_010286	Mus musculus delta sleep inducing peptide, immunoreactor (Dsip1), mRNA.
Dtr	NM_010415	Mus musculus diphtheria toxin receptor (Dtr), mRNA.
Dusp1	NM_013642	Mus musculus dual specificity phosphatase 1 (Dusp1), mRNA.

Supplemental Material, Table 1

List Of All Genes On The Custom Immune Function Sentrix Array Matrix

Gene or Transcript ID	RefSeq ID	Name
Dusp2	NM_010090	Mus musculus dual specificity phosphatase 2 (Dusp2), mRNA.
E2f1	NM_007891	Mus musculus E2F transcription factor 1 (E2f1), mRNA
Ebf1	NM_007897	Mus musculus early B-cell factor 1 (Ebf1), mRNA.
Ebf2	NM_010095	Mus musculus early B-cell factor 2 (Ebf2), mRNA.
Ebf3	NM_010096	Mus musculus early B-cell factor 3 (Ebf3), mRNA.
Eef1a1	XM_203909	Mus musculus eukaryotic translation elongation factor 1 alpha 1 (Eef1a1), mRNA.
Egf	NM_010113.1	Mus musculus epidermal growth factor (Egf), mRNA.
Egfr	NM_007912.1	Mus musculus epidermal growth factor receptor (Egfr)
Egr1	NM_007913	Mus musculus early growth response 1 (Egr1), mRNA.
Egr2	NM_010118	Mus musculus early growth response 2 (Egr2), mRNA.
Egr3	NM_018781	Mus musculus early growth response 3 (Egr3), mRNA.
Ei24	NM_007915	Mus musculus etoposide induced 2.4 mRNA (Ei24), mRNA.
Elf3	NM_007921	Mus musculus E74-like factor 3 (Elf3), mRNA.
ELK1	NM_007922	Mus musculus ELK1, member of ETS oncogene family (Elk1)
Eomes	NM_010136	Mus musculus eomesodermin homolog (Xenopus laevis) (Eomes), mRNA
Ephx1	NM_007942	Mus musculus epoxide hydrolase 1, microsomal (Ephx1), mRNA.
Eps15	NM_007943	Mus musculus epidermal growth factor receptor pathway substrate 15 (Eps15), mRNA.
ErbB2	XM_109715	Mus musculus v-erb-b2 erythroblastic leukemia viral oncogene homolog 2, neuro/glioblastoma derived oncogene homolog (avian)
ErbB3	XM_125954	Mus musculus v-erb-b2 erythroblastic leukemia viral oncogene homolog 3 (avian) (ErbB3), mRNA.
ErbB4	XM_136682	Mus musculus v-erb-a erythroblastic leukemia viral oncogene homolog 4 (avian) (ErbB4), mRNA.
Evi2a	NM_010161	Mus musculus ecotropic viral integration site 2a (Evi2a), mRNA.
Faf1	NM_007983	Mus musculus Fas-associated factor 1 (Faf1), mRNA.
FcER1a	NM_010184	Mus musculus Fc receptor, IgE, high affinity I, alpha polypeptide (FcER1a), mRNA.
FcER1g	NM_010185	Mus musculus Fc receptor, IgE, high affinity I, gamma polypeptide (FcER1g), mRNA.
FcER2a	NM_013517	Mus musculus Fc receptor, IgE, low affinity II, alpha polypeptide (FcER2a), mRNA.
Fcgr1	NM_010186	Mus musculus Fc receptor, IgG, high affinity I (Fcgr1), mRNA.
Fcgr2b	NM_010187.1	Mus musculus Fc receptor, IgG, low affinity IIb (Fcgr2b), mRNA.
Fcgr3	NM_010188	Mus musculus Fc receptor, IgG, low affinity III (Fcgr3), mRNA.
Fcgrt	NM_010189	Mus musculus Fc receptor, IgG, alpha chain transporter (Fcgrt), mRNA.
Fes	NM_010194	Mus musculus feline sarcoma oncogene (Fes), mRNA.
Fgf1	NM_010197	Mus musculus fibroblast growth factor 1 (Fgf1), mRNA.
Fgf2	NM_008006	Mus musculus fibroblast growth factor 2 (Fgf2), mRNA.
Fgf7	NM_008008	Mus musculus fibroblast growth factor 7 (Fgf7), mRNA.
Figf	NM_010216	Mus musculus c-fos induced growth factor (Figf), mRNA.
Fos	NM_010234	Mus musculus FBJ osteosarcoma oncogene (Fos), mRNA.
Fosb	NM_008036	Mus musculus FBJ osteosarcoma oncogene B (Fosb), mRNA.

Supplemental Material, Table 1

List Of All Genes On The Custom Immune Function Sentrix Array Matrix

Gene or Transcript ID	RefSeq ID	Name
Fosl1	NM_010235	Mus musculus fos-like antigen 1 (Fosl1), mRNA.
Frk	NM_010237	Mus musculus fyn-related kinase (Frk), mRNA.
Fyn	NM_008054	Mus musculus Fyn proto-oncogene (Fyn), mRNA.
G22p1	NM_010247	Mus musculus thyroid autoantigen (G22p1), mRNA.
Gad1	NM_008077	Mus musculus glutamic acid decarboxylase 1 (Gad1), mRNA.
Gadd45a	NM_007836	Mus musculus growth arrest and DNA-damage-inducible 45 alpha (Gadd45a), mRNA.
Gata1	NM_008089	Mus musculus GATA binding protein 1 (Gata1), mRNA.
Gata2	NM_008090	Mus musculus GATA binding protein 2 (Gata2), mRNA.
Gata3	NM_008091	Mus musculus GATA binding protein 3 (Gata3), mRNA.
Gcet	NM_008099	Mus musculus germinal center expressed transcript (Gcet), mRNA.
Gdf15	NM_011819	Mus musculus growth differentiation factor 15 (Gdf15), mRNA.(NAG-1)
Gem	NM_010276	Mus musculus GTP binding protein (gene overexpressed in skeletal muscle) (Gem), mRNA.
Gfi1	NM_010278	Mus musculus growth factor independent 1 (Gfi1), mRNA.
Gfi1b	NM_008114	Mus musculus growth factor independent 1B (Gfi1b), mRNA.
Ggh	NM_008117	Mus musculus gamma-glutamyl hydrolase (Ggh), mRNA.
Glg1	NM_009149	Mus musculus golgi apparatus protein 1 (Glg1), mRNA.
Glrx2	NM_053108	Mus musculus glutaredoxin 2 (thioltransferase) (Glrx2), mRNA.
Gpi1	NM_008155	Mus musculus glucose phosphate isomerase 1 (Gpi1), mRNA.
Gpx1	NM_008160	Mus musculus glutathione peroxidase 1 (Gpx1), mRNA
Gpx3	NM_008161	Mus musculus glutathione peroxidase 3 (Gpx3), mRNA
Grb2	NM_008163	Mus musculus growth factor receptor bound protein 2 (Grb2)
Gsr	NM_010344	Mus musculus glutathione reductase 1 (Gsr), mRNA.
Gss	NM_008180	Mus musculus glutathione synthetase (Gss), mRNA
Gsta1	NM_008181	Mus musculus glutathione S-transferase, alpha 1 (Ya) (Gsta1), mRNA
Gstm1	NM_010358.2	Mus musculus glutathione S-transferase, mu 1 (Gstm1), mRNA.
Gstm5	NM_010360	Mus musculus glutathione S-transferase, mu 5 (Gstm5), mRNA.
Gsto1	NM_010362	Mus musculus glutathione S-transferase omega 1 (Gsto1), mRNA
Gstp1	NM_013541	Mus musculus glutathione S-transferase, pi 1 (Gstp1), mRNA.
Gzma	NM_010370	Mus musculus granzyme A (Gzma), mRNA.
Gzmb	NM_013542	Mus musculus granzyme B (Gzmb), mRNA.
Gzmc	NM_010371	Mus musculus granzyme C (Gzmc), mRNA.
Gzmd	NM_010372	Mus musculus granzyme D (Gzmd), mRNA.
Gzme	NM_010373	Mus musculus granzyme E (Gzme), mRNA.
Gzmf	NM_010374	Mus musculus granzyme F (Gzmf), mRNA.
Gzmm	NM_008504	Mus musculus granzyme M (lymphocyte met-ase 1) (Gzmm), mRNA.
H2-Aa	NM_010378	Mus musculus histocompatibility 2, class II antigen A, alpha (H2-Aa), mRNA.
H2-Ab1	NM_010379	Mus musculus histocompatibility 2, class II antigen A, beta 1 (H2-Ab1), mRNA.

Supplemental Material, Table 1

List Of All Genes On The Custom Immune Function Sentrix Array Matrix

Gene or Transcript ID	RefSeq ID	Name
H2-Bf	NM_008198	Mus musculus histocompatibility 2, complement component factor B (H2-Bf), mRNA.
H2-D4	NM_008200	Mus musculus histocompatibility 2, D region locus 4 (H2-D4), mRNA.
H2-DMa	NM_010386	Mus musculus histocompatibility 2, class II, locus DMa (H2-DMa), mRNA.
H2-DMb1	NM_010387	Mus musculus histocompatibility 2, class II, locus Mb1 (H2-DMb1), mRNA.
H2-DMb2	NM_010388	Mus musculus histocompatibility 2, class II, locus Mb2 (H2-DMb2), mRNA.
H2-Ea	NM_010381	Mus musculus histocompatibility 2, class II antigen E alpha (H2-Ea), mRNA.
H2-Eb1	NM_010382	Mus musculus histocompatibility 2, class II antigen E beta (H2-Eb1), mRNA.
H2-K	XM_207061	Mus musculus histocompatibility 2, K region (H2-K), mRNA.
H2-M3	NM_013819	Mus musculus histocompatibility 2, M region locus 3 (H2-M3), mRNA.
H2-Oa	NM_008206	Mus musculus histocompatibility 2, O region alpha locus (H2-Oa), mRNA.
H2-Ob	NM_010389	Mus musculus histocompatibility 2, O region beta locus (H2-Ob), mRNA.
H2-Q7	NM_207648	Mus musculus histocompatibility 2, Q region locus 7 (H2-Q7), mRNA.
Hck	NM_010407	Mus musculus hemopoietic cell kinase (Hck), mRNA.
Hcph	NM_013545	Mus musculus hemopoietic cell phosphatase (Hcph), mRNA.
Hgf	NM_010427	Mus musculus hepatocyte growth factor (Hgf), mRNA.
Hif1a	NM_010431	Mus musculus hypoxia inducible factor 1, alpha subunit (Hif1a),
HMOX1	NM_010442	Mus musculus heme oxygenase (decycling) 1 (Hmox1)
HSP7A2	NM_010479	Mus musculus heat shock protein 1A (Hspa1a)
Hspa1a	XM_207062	Mus musculus heat shock protein 1A (Hspa1a), mRNA.
Hspa2	NM_008301	Mus musculus heat shock protein 2 (Hspa2), mRNA.
Hspa4	NM_008300	Mus musculus heat shock protein 4 (Hspa4)
Hspa9a	NM_010481	Mus musculus heat shock protein, A (Hspa9a), mRNA.
Hspca	XM_203222	Mus musculus similar to heat shock protein 86 (LOC276756)
Hspd1	NM_010477	Mus musculus heat shock protein 1 (chaperonin) (Hspd1)
Icam1	NM_010493.2	Mus musculus intercellular adhesion molecule (Icam1)
Icam2	NM_010494	Mus musculus intercellular adhesion molecule 2 (Icam2), mRNA.
Icosl	NM_015790	Mus musculus icos ligand (Icosl), mRNA.
Idb3	NM_008321	Mus musculus inhibitor of DNA binding 3 (Idb3), mRNA.
Ier2	NM_010499	Mus musculus immediate early response 2 (Ier2), mRNA.
Ifi16	NM_008329	Mus musculus interferon, gamma-inducible protein 16 (Ifi16), mRNA.
Ifna6	NM_008335	Mus musculus interferon alpha family, gene 6 (Ifna6), mRNA.
Ifnar1	NM_010508	Mus musculus interferon (alpha and beta) receptor 1 (Ifnar1), mRNA
Ifnar2	NM_010509	Mus musculus interferon (alpha and beta) receptor 2 (Ifnar2), mRNA.
Ifnb	NM_010510	Mus musculus interferon beta, fibroblast (Ifnb), mRNA.
Ifng	NM_008337	Mus musculus interferon gamma (Ifng), mRNA.
Ifngr	NM_010511	Mus musculus interferon gamma receptor (Ifngr), mRNA.
Ifngr2	NM_008338	Mus musculus interferon gamma receptor 2 (Ifngr2), mRNA.

Supplemental Material, Table 1

List Of All Genes On The Custom Immune Function Sentrix Array Matrix

Gene or Transcript ID	RefSeq ID	Name
Ifrd1	NM_013562	Mus musculus interferon-related developmental regulator 1 (Ifrd1), mRNA.
Igf1	NM_010512.2	Mus musculus insulin-like growth factor 1 (Igf1), mRNA.
Igf1r	NM_010513	Mus musculus insulin-like growth factor I receptor (Igf1r), mRNA.
Igf2	NM_010514.1	Mus musculus insulin-like growth factor 2 (Igf2)
Igf2r	NM_010515.1	Mus musculus insulin-like growth factor 2 receptor (Igf2r)
Igj	NM_152839	Mus musculus immunoglobulin joining chain (Igj), mRNA.
IGMUC	NM_212451	Mus musculus expressed sequence AU044919
Ii	NM_010545	Mus musculus Ia-associated invariant chain (Ii)
Ikbkb	NM_010546	Mus musculus inhibitor of kappaB kinase beta (Ikbkb)
Ikbke	NM_019777	Mus musculus inhibitor of kappaB kinase epsilon (Ikbke), mRNA.
Ikbkg	NM_010547	Mus musculus inhibitor of kappaB kinase gamma (Ikbkg)
Il10	NM_010548	Mus musculus interleukin 10 (Il10), mRNA.
Il10ra	NM_008348	Mus musculus interleukin 10 receptor, alpha (Il10ra), mRNA.
Il10rb	NM_008349	Mus musculus interleukin 10 receptor, beta (Il10rb), mRNA.
Il11	NM_008350	Mus musculus interleukin 11 (Il11), mRNA.
Il11ra1	NM_010549	Mus musculus interleukin 11 receptor, alpha chain 1 (Il11ra1), mRNA.
Il12a	NM_008351.1	Mus musculus interleukin 12a (Il12a), mRNA.
Il12b	NM_008352	Mus musculus interleukin 12b (Il12b), mRNA.
Il12rb1	NM_008353	Mus musculus interleukin 12 receptor, beta 1 (Il12rb1), mRNA.
Il12rb2	NM_008354	Mus musculus interleukin 12 receptor, beta 2 (Il12rb2), mRNA.
Il13	NM_008355	Mus musculus interleukin 13 (Il13), mRNA.
Il13ra1	NM_133990.2	Mus musculus interleukin 13 receptor, alpha 1 (Il13ra1)
Il13ra2	NM_008356	Mus musculus interleukin 13 receptor, alpha 2 (Il13ra2), mRNA.
Il15	NM_008357	Mus musculus interleukin 15 (Il15), mRNA.
Il15ra	NM_133836	Mus musculus interleukin 15 receptor, alpha chain (Il15ra), mRNA.
Il16	NM_010551	Mus musculus interleukin 16 (Il16), mRNA.
Il17rc	NM_008359	Mus musculus interleukin 17 receptor C (Il17rc), mRNA.
Il17rd	NM_010552	Mus musculus interleukin 17 receptor D (Il17rd), mRNA.
Il18	NM_008360	Mus musculus interleukin 18 (Il18), mRNA.
Il18rap	NM_010553	Mus musculus interleukin 18 receptor accessory protein (Il18rap), mRNA.
Il1a	NM_010554.1	Mus musculus interleukin 1 alpha (Il1a), mRNA.
Il1b	NM_008361.2	Mus musculus interleukin 1 beta (Il1b), mRNA.
Il1r2	NM_008362	Mus musculus interleukin 1 receptor, type II (Il1r2), mRNA.
Il1r2	NM_010555	Mus musculus interleukin 1 receptor, type II (Il1r2), mRNA.
Il1rap	NM_008364	Mus musculus interleukin 1 receptor accessory protein (Il1rap), mRNA.
Il1rn	NM_031167	Mus musculus interleukin 1 receptor antagonist (Il1rn), mRNA.
Il2	NM_008366.2	Mus musculus interleukin 2 (Il2), mRNA.

Supplemental Material, Table 1

List Of All Genes On The Custom Immune Function Sentrix Array Matrix

Gene or Transcript ID	RefSeq ID	Name
Il2ra	NM_008367	Mus musculus interleukin 2 receptor, alpha chain (Il2ra), mRNA.
Il2rb	NM_008368	Mus musculus interleukin 2 receptor, beta chain (Il2rb), mRNA.
Il2rg	NM_013563	Mus musculus interleukin 2 receptor, gamma chain (Il2rg), mRNA.
Il3	NM_010556	Mus musculus interleukin 3 (Il3), mRNA.
Il3ra	NM_008369	Mus musculus interleukin 3 receptor, alpha chain (Il3ra), mRNA.
Il4	NM_021283.1	Mus musculus interleukin 4 (Il4), mRNA.
Il4ra	NM_010557	Mus musculus interleukin 4 receptor, alpha (Il4ra), mRNA.
Il5	NM_010558	Mus musculus interleukin 5 (Il5), mRNA.
Il5ra	NM_008370	Mus musculus interleukin 5 receptor, alpha (Il5ra), mRNA.
Il6	NM_031168.1	Mus musculus interleukin 6 (Il6), mRNA.
Il6ra	NM_010559	Mus musculus interleukin 6 receptor, alpha (Il6ra), mRNA.
Il6st	NM_010560	Mus musculus interleukin 6 signal transducer (Il6st), mRNA.
Il7	NM_008371	Mus musculus interleukin 7 (Il7), mRNA.
Il7r	NM_008372	Mus musculus interleukin 7 receptor (Il7r), mRNA.
Il8rb	NM_009909	Mus musculus interleukin 8 receptor, beta (Il8rb), mRNA
Il9	NM_008373.1	Mus musculus interleukin 9 (Il9), mRNA.
Il9r	NM_008374.1	Mus musculus interleukin 9 receptor (Il9r), mRNA.
Imap38	NM_008376	Mus musculus immunity-associated protein (Imap38), transcript variant 1, mRNA.
Ins2	NM_008387	Mus musculus insulin II (Ins2), mRNA.
Insig1	NM_153526	Mus musculus insulin induced gene 1 (Insig1), mRNA.
Insr	NM_010568.1	Mus musculus insulin receptor (Insr)
Irak1	NM_008363	Mus musculus interleukin-1 receptor-associated kinase 1 (Irak1), mRNA.
Irbf1	NM_013714	Mus musculus interferon response element binding factor 1 (Irbf1), mRNA.
Irf1	NM_008390	Mus musculus interferon regulatory factor 1 (Irf1), mRNA.
Irf4	NM_013674	Mus musculus interferon regulatory factor 4 (Irf4), mRNA.
Itga2	NM_008396	Mus musculus integrin alpha 2 (Itga2), mRNA.
Itga2b	NM_010575	Mus musculus integrin alpha 2b (Itga2b), mRNA.
Itga4	NM_010576	Mus musculus integrin alpha 4 (Itga4)
Itgae	NM_008399	Mus musculus integrin, alpha E, epithelial-associated (Itgae), mRNA.
Itgal	NM_008400	Mus musculus integrin alpha L (Itgal)
Itgam	NM_008401	Mus musculus integrin alpha M (Itgam)
Itgax	NM_021334	Mus musculus integrin alpha X (Itgax), mRNA.
Itgb1	NM_010578	Mus musculus integrin beta 1 (fibronectin receptor beta) (Itgb1), mRNA.
Itgb2	NM_008404	Mus musculus integrin beta 2 (Itgb2)
Itgb2l	NM_008405	Mus musculus integrin beta 2-like (Itgb2l), mRNA.
Itgb3	NM_016780	Mus musculus integrin beta 3 (Itgb3)
Itgb5	NM_010580	Mus musculus integrin beta 5 (Itgb5), mRNA.

Supplemental Material, Table 1

List Of All Genes On The Custom Immune Function Sentrix Array Matrix

Gene or Transcript ID	RefSeq ID	Name
Itgb7	NM_013566	Mus musculus integrin beta 7 (Itgb7), mRNA.
Itk	NM_010583	Mus musculus IL2-inducible T-cell kinase (Itk), mRNA.
Jak2	NM_008413	Mus musculus Janus kinase 2 (Jak2), mRNA.
Jak3	NM_010589.1	Mus musculus Janus kinase 3 (Jak3), mRNA.
Jun	NM_010591	Mus musculus Jun oncogene (Jun), mRNA.
Junb	NM_008416	Mus musculus Jun-B oncogene (Junb), mRNA.
Kit	NM_021099	Mus musculus kit oncogene (Kit), mRNA.
Kitl	NM_013598	Mus musculus kit ligand (Kitl), mRNA.
Klf13	NM_021366	Mus musculus Kruppel-like factor 13 (Klf13), mRNA.
Klf2	NM_008452	Mus musculus Kruppel-like factor 2 (lung) (Klf2), mRNA.
Klf3	NM_008453	Mus musculus Kruppel-like factor 3 (basic) (Klf3), mRNA.
Klf3	NM_007569	Mus musculus Kruppel-like factor 3 (basic) (Klf3)
Klf4	NM_010637	Mus musculus Kruppel-like factor 4 (gut) (Klf4), mRNA.
Klf5	NM_009769	Mus musculus Kruppel-like factor 5 (Klf5), mRNA.
Klra1	NM_016659	Mus musculus killer cell lectin-like receptor, subfamily A, member 1 (Klra1), mRNA.
Klra2	NM_008462	Mus musculus killer cell lectin-like receptor, subfamily A, member 2 (Klra2), mRNA.
Klra3	NM_010648	Mus musculus killer cell lectin-like receptor, subfamily A, member 3 (Klra3), mRNA.
Klra4	NM_010649	Mus musculus killer cell lectin-like receptor, subfamily A, member 4 (Klra4), mRNA.
Klra5	NM_008463	Mus musculus killer cell lectin-like receptor, subfamily A, member 5 (Klra5), mRNA.
Klra6	NM_008464	Mus musculus killer cell lectin-like receptor, subfamily A, member 6 (Klra6), mRNA.
Klra7	NM_014194	Mus musculus killer cell lectin-like receptor, subfamily A, member 7 (Klra7), mRNA.
Klra8	NM_010650	Mus musculus killer cell lectin-like receptor, subfamily A, member 8 (Klra8), mRNA.
Klrd1	NM_010654	Mus musculus killer cell lectin-like receptor, subfamily D, member 1 (Klrd1), mRNA.
Klrg1	NM_016970	Mus musculus killer cell lectin-like receptor subfamily G, member 1 (Klrg1), mRNA.
Lag3	NM_008479	Mus musculus lymphocyte-activation gene 3 (Lag3), mRNA.
Lat	NM_010689	Mus musculus linker for activation of T cells (Lat), mRNA.
Lck	NM_010693	Mus musculus lymphocyte protein tyrosine kinase (Lck), mRNA.
Lect2	NM_010702	Mus musculus leukocyte cell-derived chemotaxin 2 (Lect2), mRNA.
Lef1	NM_010703	Mus musculus lymphoid enhancer binding factor 1 (Lef1), mRNA.
Lif	NM_008501	Mus musculus leukemia inhibitory factor (Lif), mRNA.
Lifr	NM_013584	Mus musculus leukemia inhibitory factor receptor (Lifr), mRNA.
Lnk	NM_008507	Mus musculus linker of T-cell receptor pathways (Lnk), mRNA.
LOC217069	XM_126545	Mus musculus similar to estrogen-responsive finger protein
LOC224114	XM_147220	Mus musculus similar to tyrosine kinase, non-receptor, 2; Cdc42 GTPase-inhibiting protein; P21cdc42Hs kinase; activated p21cdc42Hs
LOC224206	XM_147250	Mus musculus similar to mCDC47 (LOC224206), mRNA.

Supplemental Material, Table 1

List Of All Genes On The Custom Immune Function Sentrix Array Matrix

Gene or Transcript ID	RefSeq ID	Name
LOC329141	NM_008084	Mus musculus similar to Glyceraldehyde 3-phosphate dehydrogenase (GAPDH) (38 kDa BFA-dependent ADP-ribosylation substrate) (BARS-38)
LOC332427	NM_017372	Mus musculus similar to lysozyme-like (LOC332427), mRNA.
LOC333897	XM_290046	Mus musculus similar to T-cell receptor beta chain V region C5
LOC380793	XM_354704	Mus musculus similar to Ig gamma-2A chain C region secreted form
LOC382598	NM_007655	Mus musculus similar to CD79A antigen (immunoglobulin-associated alpha) (LOC382598), mRNA.
LOC384689	NM_008007	Mus musculus similar to transforming protein (int-2) - mouse (LOC384689), mRNA.
LOC386543	XM_359386	Mus musculus similar to T-cell receptor beta V(E1)-D(1)-J(2.5)
LOC56628	NM_019909	Mus musculus MHC (A.CA/J(H-2K-f) class I antigen (LOC56628), mRNA.
Lrmp	NM_008511	Mus musculus lymphoid-restricted membrane protein (Lrmp), mRNA.
Lta	NM_010735	Mus musculus lymphotoxin A (Lta), mRNA.
Ltb	NM_008518	Mus musculus lymphotoxin B (Ltb), mRNA.
Ltbr	NM_010736	Mus musculus lymphotoxin B receptor (Ltbr), mRNA.
Ly6a	NM_010738	Mus musculus lymphocyte antigen 6 complex, locus A (Ly6a), mRNA.
Ly6c	NM_010741	Mus musculus lymphocyte antigen 6 complex, locus C (Ly6c), mRNA.
Ly6d	NM_010742	Mus musculus lymphocyte antigen 6 complex, locus D (Ly6d), mRNA.
Ly78	NM_008533	Mus musculus lymphocyte antigen 78 (Ly78), mRNA.
Lyn	NM_010747	Mus musculus Yamaguchi sarcoma viral (v-yes-1) oncogene homolog (Lyn), mRNA.
Mad2l2	NM_027985	Mus musculus MAD2 mitotic arrest deficient-like 2 (yeast) (Mad2l2), mRNA.
Madcam1	NM_013591	Mus musculus mucosal vascular addressin cell adhesion molecule 1 (Madcam1), mRNA.
Mafk	NM_010757	Mus musculus v-maf musculoaponeurotic fibrosarcoma oncogene family, protein K (avian) (Mafk), mRNA.
Mal	NM_010762	Mus musculus myelin and lymphocyte protein, T-cell differentiation protein (Mal), mRNA.
Map2k1	NM_008927.1	Mus musculus mitogen activated protein kinase kinase 1 (Map2k1), mRNA.
Map2k2	NM_023138	Mus musculus mitogen activated protein kinase kinase 2 (Map2k2)
Map3k14	NM_016896	Mus musculus mitogen-activated protein kinase kinase kinase 14 (Map3k14), mRNA.
Map4k1	NM_008279	Mus musculus mitogen activated protein kinase kinase kinase kinase 1 (Map4k1), mRNA.
Map4k4	NM_008696	Mus musculus mitogen-activated protein kinase kinase kinase kinase 4 (Map4k4), mRNA.
Mapk1	NM_011949	Mus musculus mitogen activated protein kinase 1 (Mapk1)
Mapk14	NM_011941	Mus musculus mitogen activated protein kinase 14 (Mapk14), mRNA.
Mapk14	NM_011951	Mus musculus mitogen activated protein kinase 14 (Mapk14), mRNA.
Mapk3	NM_011952	Mus musculus mitogen activated protein kinase 3 (Mapk3)
Mapk9	NM_016961	Mus musculus mitogen activated protein kinase 9 (Mapk9), mRNA.
Mapkapk2	NM_008551	Mus musculus MAP kinase-activated protein kinase 2 (Mapkapk2), mRNA.
Marcks	NM_008538	Mus musculus myristoylated alanine rich protein kinase C substrate
Mcl1	NM_008562	Mus musculus myeloid cell leukemia sequence 1 (Mcl1), mRNA.
Mcm5	NM_008566	Mus musculus minichromosome maintenance deficient 5, cell division cycle 46 (<i>S. cerevisiae</i>) (Mcm5), mRNA.
Mcpt5	NM_010780	Mus musculus mast cell protease 5 (Mcpt5), mRNA.

Supplemental Material, Table 1

List Of All Genes On The Custom Immune Function Sentrix Array Matrix

Gene or Transcript ID	RefSeq ID	Name
Mdk	NM_010784	Mus musculus midkine (Mdk), mRNA.
Mdm2	NM_010786.2	Mus musculus transformed mouse 3T3 cell double minute 2 (Mdm2), mRNA.
Mdm4	NM_008575	Mus musculus transformed mouse 3T3 cell double minute 4 (Mdm4), mRNA.
Mef2b	NM_008578	Mus musculus myocyte enhancer factor 2B (Mef2b), mRNA.
Mef2c	NM_025282	Mus musculus myocyte enhancer factor 2C (Mef2c), mRNA.
Mef2d	NM_133665	Mus musculus myocyte enhancer factor 2D (Mef2d), mRNA.
MEK3	NM_008928	Mus musculus mitogen activated protein kinase kinase 3 (Map2k3)
Mif	NM_010798.1	Mus musculus macrophage migration inhibitory factor (Mif), mRNA.
Mlp	NM_010807	Mus musculus MARCKS-like protein (Mlp), mRNA.
Mmp13	NM_008607	Mus musculus matrix metalloproteinase 13 (Mmp13), mRNA.
Mmp9	NM_013599	Mus musculus matrix metalloproteinase 9 (Mmp9), mRNA.
Mox2	NM_010818	Mus musculus antigen identified by monoclonal antibody MRC OX-2 (Mox2), mRNA.
Msr1	NM_031195	Mus musculus macrophage scavenger receptor 1 (Msr1), mRNA.
Mt1	NM_013602	Mus musculus metallothionein 1 (Mt1), mRNA
Mt3	NM_013603	Mus musculus metallothionein 3 (Mt3), mRNA
Mtf1	NM_008636	Mus musculus metal response element binding transcription factor 1
Myb	NM_033597.1	Mus musculus myeloblastosis oncogene (Myb), mRNA.
Myc	NM_010849	Mus musculus myelocytomatosis oncogene (Myc), mRNA.
Myd116	NM_008654	Mus musculus myeloid differentiation primary response gene 116 (Myd116), mRNA.
Myo18a	NM_011586	Mus musculus myosin XVIIIa (Myo18a), mRNA
Nab2	NM_008668.1	Mus musculus Ngfi-A binding protein 2 (Nab2), mRNA.
Nap1l4	NM_023785	Mus musculus nucleosome assembly protein 1-like 4 (Nap1l4), mRNA.
Nat1	NM_008673	Mus musculus N-acetyltransferase 1 (arylamine N-acetyltransferase)
Ncf2	NM_010877.2	Mus musculus neutrophil cytosolic factor 2 (Ncf2)
Nfatc1	NM_016791	Mus musculus nuclear factor of activated T-cells, cytoplasmic, calcineurin-dependent 1 (Nfatc1), mRNA.
Nfatc2ip	NM_010900	Mus musculus nuclear factor of activated T-cells, cytoplasmic, calcineurin-dependent 2 interacting protein (Nfatc2ip), mRNA.
Nfatc3	NM_010901	Mus musculus nuclear factor of activated T-cells, cytoplasmic, calcineurin-dependent 3 (Nfatc3), mRNA.
Nfkb1	NM_008689	Mus musculus nuclear factor of kappa light chain gene enhancer in B-cells 1, p105 (Nfkb1), mRNA
Nfkb2	NM_019408	Mus musculus nuclear factor of kappa light polypeptide gene enhancer in B-cells 2, p49/p100 (Nfkb2), mRNA.
Nfkbia	NM_010907	Mus musculus nuclear factor of kappa light chain gene enhancer in B-cells inhibitor, alpha (Nfkbia), mRNA.
Nfkbib	NM_010908	Mus musculus nuclear factor of kappa light chain gene enhancer in B-cells inhibitor, beta (Nfkbib), mRNA.
Ngfb	NM_013609	Mus musculus nerve growth factor, beta (Ngfb), mRNA
NIP3	NM_009760	Mus musculus BCL2/adenovirus E1B 19kDa-interacting protein 1, NIP3
Nktr	NM_010918	Mus musculus natural killer tumor recognition sequence (Nktr), mRNA.
Nos2	XM_147149	Mus musculus nitric oxide synthase 2, inducible, macrophage (Nos2), mRNA.

Supplemental Material, Table 1

List Of All Genes On The Custom Immune Function Sentrix Array Matrix

Gene or Transcript ID	RefSeq ID	Name
Nos3	NM_008713.2	Mus musculus nitric oxide synthase 3, endothelial cell (Nos3)
Notch1	NM_008714	Mus musculus Notch gene homolog 1 (Drosophila) (Notch1), mRNA.
Notch2	NM_010928	Mus musculus Notch gene homolog 2 (Drosophila) (Notch2), mRNA.
Notch3	NM_008716	Mus musculus Notch gene homolog 3 (Drosophila) (Notch3), mRNA.
Notch4	NM_010929	Mus musculus Notch gene homolog 4 (Drosophila) (Notch4), mRNA.
Nqo1	NM_008706	Mus musculus NAD(P)H dehydrogenase, quinone 1 (Nqo1), mRNA.
Nr4a1	NM_010444	Mus musculus nuclear receptor subfamily 4, group A, member 1 (Nr4a1), mRNA.
Nras	NM_010937	Mus musculus neuroblastoma ras oncogene (Nras), mRNA.
Odc	NM_013614	Mus musculus ornithine decarboxylase, structural (Odc), mRNA
OPG	NM_008764	Mus musculus tumor necrosis factor receptor superfamily, member 11b, (osteoprotegerin) (Tnfrsf11b)
ORF18	NM_029565	Mus musculus open reading frame 18 (ORF18), mRNA.
Osm	XM_137493	Mus musculus oncostatin M (Osm), mRNA.
Pax5	NM_008782	Mus musculus paired box gene 5 (Pax5), mRNA.
Pbef	NM_021524	Mus musculus pre-B-cell colony-enhancing factor (Pbef), mRNA.
Pbx1	NM_008783	Mus musculus pre B-cell leukemia transcription factor 1 (Pbx1), transcript variant b, mRNA.
Pcna	NM_011045.1	Mus musculus proliferating cell nuclear antigen (Pcna), mRNA.
Pdcd1	NM_008798	Mus musculus programmed cell death 1 (Pdcd1), mRNA.
Pdcd1lg1	NM_021893	Mus musculus programmed cell death 1 ligand 1 (Pdcd1lg1), mRNA.
Pdgfa	NM_008808	Mus musculus platelet derived growth factor, alpha (Pdgfa), mRNA
Pdgfb	NM_011057	Mus musculus platelet derived growth factor, B polypeptide (Pdgfb), mRNA.
Pdgfc	NM_019971	Mus musculus platelet-derived growth factor, C polypeptide
Pgk1	NM_008828	Mus musculus phosphoglycerate kinase 1 (Pgk1), mRNA.
Pgk2	NM_031190	Mus musculus phosphoglycerate kinase 2 (Pgk2), mRNA.
Phlda1	NM_009344	Mus musculus pleckstrin homology-like domain, family A, member 1 (Phlda1), mRNA.
Pias1	NM_019663	Mus musculus protein inhibitor of activated STAT 1 (Pias1), mRNA.
Pigf	NM_008838	Mus musculus phosphatidylinositol glycan, class F (Pigf), mRNA.
Pik3ap1	NM_031376	Mus musculus phosphoinositide-3-kinase adaptor protein 1 (Pik3ap1), mRNA.
Pik3r1	NM_011085	Mus musculus phosphatidylinositol 3-kinase, regulatory subunit, polypeptide 1 (p85 alpha) (Pik3r1), mRNA.
Pip5k1b	NM_008847	Mus musculus phosphatidylinositol-4-phosphate 5-kinase, type 1 beta (Pip5k1b), mRNA.
Pirb	NM_011095	Mus musculus paired-Ig-like receptor B (Pirb), mRNA
Pla2g2a	NM_011108.1	Mus musculus phospholipase A2, group IIA (platelets, synovial fluid) (Pla2g2a)
Pla2g4a	NM_008869	Mus musculus phospholipase A2, group IVA (cytosolic, calcium-dependent) (Pla2g4a),
Pla2g5	NM_011110	Mus musculus phospholipase A2, group V (Pla2g5)
Pla2g6	NM_016915.2	Mus musculus phospholipase A2, group VI (Pla2g6)
Plau	NM_008873	Mus musculus plasminogen activator, urokinase (Plau), mRNA.
Plaur	NM_011113	Mus musculus urokinase plasminogen activator receptor (Plaur), mRNA.
Plk2	NM_152804	Mus musculus polo-like kinase 2 (Drosophila) (Plk2), mRNA.

Supplemental Material, Table 1

List Of All Genes On The Custom Immune Function Sentrix Array Matrix

Gene or Transcript ID	RefSeq ID	Name
Prdm1	NM_007548.1	Mus musculus PR domain containing 1, with ZNF domain (Prdm1), mRNA.
Prdx1	NM_011034	Mus musculus peroxiredoxin 1 (Prdx1), mRNA.
Prf1	NM_011073.1	Mus musculus perforin 1 (pore forming protein) (Prf1), mRNA.
Prkcabp	NM_008837	Mus musculus protein kinase C, alpha binding protein (Prkcabp), mRNA.
Prkcl2	NM_178654	Mus musculus protein kinase C-like 2 (Prkcl2), mRNA.
Prkcm	NM_008858	Mus musculus protein kinase C, mu (Prkcm), mRNA.
Prkcq	NM_178075.2	Mus musculus protein kinase C, theta (Prkcq), mRNA.
Prkcz	NM_008860	Mus musculus protein kinase C, zeta (Prkcz), mRNA.
Prkdc	NM_011159	Mus musculus protein kinase, DNA activated, catalytic polypeptide (Prkdc), mRNA.
Prl	NM_011164	Mus musculus prolactin (Prl), mRNA.
Ptcra	NM_011195	Mus musculus pre T-cell antigen receptor alpha (Ptcra), mRNA.
Ptgs1	NM_008969	Mus musculus prostaglandin-endoperoxide synthase 1 (Ptgs1), mRNA.
Ptgs2	NM_011198	Mus musculus prostaglandin-endoperoxide synthase 2 (Ptgs2), mRNA.
Ptn	NM_008973	Mus musculus pleiotrophin (Ptn), mRNA.
Ptpn8	NM_008979	Mus musculus protein tyrosine phosphatase, non-receptor type 8 (Ptpn8), mRNA.
Ptprc	NM_011210	Mus musculus protein tyrosine phosphatase, receptor type, C (Ptprc), mRNA.
Ptprc	NM_207653	Mus musculus protein tyrosine phosphatase, receptor type, C (Ptprc), mRNA.
Rad51	NM_011234	Mus musculus RAD51 homolog (S. cerevisiae) (Rad51), mRNA.
Raf1	NM_029780	Mus musculus v-raf-1 leukemia viral oncogene 1 (Raf1)
Rag1	NM_009019	Mus musculus recombination activating gene 1 (Rag1), mRNA.
Rag2	NM_009020	Mus musculus recombination activating gene 2 (Rag2), mRNA.
Rarb	NM_011243	Mus musculus retinoic acid receptor, beta (Rarb), mRNA.
Rb1	NM_009029	Mus musculus retinoblastoma 1 (Rb1), mRNA.
Refbp1	NM_011568	Mus musculus RNA and export factor binding protein 1 (Refbp1)
Rel	NM_009044	Mus musculus reticuloendotheliosis oncogene (Rel), mRNA.
Rela	NM_009045	Mus musculus v-rel reticuloendotheliosis viral oncogene homolog A (avian) (Rela), mRNA.
Relb	NM_009046	Mus musculus avian reticuloendotheliosis viral (v-rel) oncogene related B (Relb), mRNA.
Ripk1	NM_009068	Mus musculus receptor (TNFRSF)-interacting serine-threonine kinase 1 (Ripk1), mRNA
Ror2	NM_013846	Mus musculus receptor tyrosine kinase-like orphan receptor 2 (Ror2), mRNA.
Rps6ka2	NM_011299	Mus musculus ribosomal protein S6 kinase, polypeptide 2 (Rps6ka2), mRNA.
Rrm1	NM_009103	Mus musculus ribonucleotide reductase M1 (Rrm1), mRNA.
Rsb30	NM_029494	Mus musculus RAB30, member RAS oncogene family (Rsb30), mRNA
Satb1	NM_009122	Mus musculus special AT-rich sequence binding protein 1 (Satb1), mRNA.
Scarb1	NM_016741	Mus musculus scavenger receptor class B, member 1 (Scarb1), mRNA.
Scarb2	NM_007644	Mus musculus scavenger receptor class B, member 2 (Scarb2), mRNA.
Scd2	NM_009128	Mus musculus stearoyl-Coenzyme A desaturase 2 (Scd2), mRNA.
Scgf	NM_009131	Mus musculus stem cell growth factor (Scgf), mRNA.

Supplemental Material, Table 1

List Of All Genes On The Custom Immune Function Sentrix Array Matrix

Gene or Transcript ID	RefSeq ID	Name
Scn7a	NM_010794	Mus musculus sodium channel, voltage-gated, type VI, alpha polypeptide (Scn7a), mRNA.
Scya24	NM_019577	Mus musculus chemokine (C-C motif) ligand 24 (Ccl24)
Sdf2	NM_009143	Mus musculus stromal cell derived factor 2 (Sdf2), mRNA.
Sdfr1	NM_009145	Mus musculus stromal cell derived factor receptor 1 (Sdfr1), mRNA.
Sell	NM_011346	Mus musculus selectin, lymphocyte (Sell), mRNA.
Selpl	NM_009151	Mus musculus selectin, platelet (p-selectin) ligand (Selpl), mRNA.
Sema4d	NM_013660	Mus musculus sema domain, immunoglobulin domain (Ig), transmembrane domain (TM) and short cytoplasmic domain, (semaphorin) 4D (Sema4d),
Serpib2	NM_011111	Mus musculus serine (or cysteine) proteinase inhibitor, clade B, member 2 (Serpib2), mRNA.
Serpine1	NM_008871	Mus musculus serine (or cysteine) proteinase inhibitor, clade E, member 1 (Serpine1), mRNA.
Sertad1	NM_018820	Mus musculus SERTA domain containing 1 (Sertad1), mRNA
Sit	NM_019436	Mus musculus SHP2 interacting transmembrane adaptor (Sit), mRNA.
Sla	NM_009192	Mus musculus src-like adaptor (Sla), mRNA.
Slc3a2	NM_008577	Mus musculus solute carrier family 3 (activators of dibasic and neutral amino acid transport), member 2 (Slc3a2), mRNA.
Sn	NM_011426	Mus musculus sialoadhesin (Sn), mRNA.
Socs1	NM_009896	Mus musculus suppressor of cytokine signaling 1 (Socs1), mRNA.
Socs2	NM_007706	Mus musculus suppressor of cytokine signaling 2 (Socs2), mRNA.
Socs3	NM_007707	Mus musculus suppressor of cytokine signaling 3 (Socs3), mRNA.
Socs5	NM_019654	Mus musculus suppressor of cytokine signaling 5 (Socs5), mRNA.
Sod2	NM_013671	Mus musculus superoxide dismutase 2, mitochondrial (Sod2), mRNA
SOS1	NM_009231	Mus musculus Son of sevenless homolog 1 (Drosophila) (Sos1)
Src	NM_009271	Mus musculus Rous sarcoma oncogene (Src), mRNA.
Stat1	NM_009283	Mus musculus signal transducer and activator of transcription 1 (Stat1), mRNA.
Stat2	NM_019963	Mus musculus signal transducer and activator of transcription 2 (Stat2), mRNA.
Stat3	NM_011486	Mus musculus signal transducer and activator of transcription 3 (Stat3), mRNA.
Stat4	NM_011487	Mus musculus signal transducer and activator of transcription 4 (Stat4), mRNA.
Stat5a	NM_011488	Mus musculus signal transducer and activator of transcription 5A (Stat5a), mRNA.
Stat5b	NM_011489	Mus musculus signal transducer and activator of transcription 5B (Stat5b), mRNA.
Stat6	NM_009284	Mus musculus signal transducer and activator of transcription 6 (Stat6), mRNA.
Stk4	NM_021420	Mus musculus serine/threonine kinase 4 (Stk4), mRNA.
Stra13	NM_016665	Mus musculus stimulated by retinoic acid 13 (Stra13), mRNA.
Syk	NM_011518	Mus musculus spleen tyrosine kinase (Syk), mRNA.
Tak1	NM_172688	Mus musculus mitogen activated protein kinase kinase kinase 7 (Map3k7)
Tal1	NM_011527	Mus musculus T-cell acute lymphocytic leukemia 1 (Tal1), mRNA.

Supplemental Material, Table 1

List Of All Genes On The Custom Immune Function Sentrix Array Matrix

Gene or Transcript ID	RefSeq ID	Name
Tank	NM_011529.1	Mus musculus TRAF family member-associated Nf-kappa B activator (Tank), mRNA.
Tax1bp1	NM_025816	Mus musculus Tax1 (human T-cell leukemia virus type I) binding protein 1 (Tax1bp1), mRNA.
Tbx21	NM_019507	Mus musculus T-box 21 (Tbx21), mRNA.
Tcf7	NM_009331	Mus musculus transcription factor 7, T-cell specific (Tcf7), mRNA.
Tert	NM_009354.1	Mus musculus telomerase reverse transcriptase (Tert), mRNA.
Tgfa	NM_031199	Mus musculus transforming growth factor alpha (Tgfa), mRNA.
Tgfb1	NM_011577	Mus musculus transforming growth factor, beta 1 (Tgfb1), mRNA.
Tgfb1i4	NM_009366	Mus musculus transforming growth factor beta 1 induced transcript 4 (Tgfb1i4), mRNA.
Tgfb2	NM_009367.1	Mus musculus transforming growth factor, beta 2 (Tgfb2), mRNA.
Tgfb3	NM_009368	Mus musculus transforming growth factor, beta 3 (Tgfb3), mRNA.
Tgfr1	NM_009370	Mus musculus transforming growth factor, beta receptor I (Tgfr1), mRNA.
Tgfr2	NM_009371	Mus musculus transforming growth factor, beta receptor II (Tgfr2), transcript variant 1, mRNA.
Tgif	NM_009372	Mus musculus TG interacting factor (Tgif), mRNA.
Tgtp	NM_011579	Mus musculus T-cell specific GTPase (Tgtp), mRNA.
Thy1	NM_009382.1	Mus musculus thymus cell antigen 1, theta (Thy1), mRNA.
Tlr4	NM_021297.1	Mus musculus toll-like receptor 4 (Tlr4)
Tnf	NM_013693	Mus musculus tumor necrosis factor (Tnf), mRNA.
Tnfrsf10b	NM_020275	Mus musculus tumor necrosis factor receptor superfamily, member 10b
Tnfrsf11a	NM_009399	Mus musculus tumor necrosis factor receptor superfamily, member 11a (Tnfrsf11a), mRNA.
Tnfrsf13b	NM_021349	Mus musculus tumor necrosis factor receptor superfamily, member 13b (Tnfrsf13b), mRNA.
Tnfrsf14	NM_178931	Mus musculus tumor necrosis factor receptor superfamily, member 14 (herpesvirus entry mediator) (Tnfrsf14), mRNA.
Tnfrsf17	NM_011608	Mus musculus tumor necrosis factor receptor superfamily, member 17 (Tnfrsf17), mRNA.
Tnfrsf18	NM_009400	Mus musculus tumor necrosis factor receptor superfamily, member 18 (Tnfrsf18), mRNA.
Tnfrsf1a	NM_011609	Mus musculus tumor necrosis factor receptor superfamily, member 1a (Tnfrsf1a), mRNA.
Tnfrsf1b	NM_011610	Mus musculus tumor necrosis factor receptor superfamily, member 1b (Tnfrsf1b), mRNA.
Tnfrsf25	NM_033042	Mus musculus tumor necrosis factor receptor superfamily, member 25 (Tnfrsf25), mRNA.
Tnfrsf4	NM_011659.1	Mus musculus tumor necrosis factor receptor superfamily, member 4 (Tnfrsf4)
Tnfrsf5	NM_011611	Mus musculus tumor necrosis factor receptor superfamily, member 5 (Tnfrsf5), mRNA.
Tnfrsf6	NM_007987	Mus musculus tumor necrosis factor receptor superfamily, member 6 (Tnfrsf6), mRNA.
Tnfrsf7	XM_284241	Mus musculus tumor necrosis factor receptor superfamily, member 7 (Tnfrsf7), mRNA.
Tnfrsf8	NM_009401.1	Mus musculus tumor necrosis factor receptor superfamily, member 8 (Tnfrsf8)
Tnfrsf9	NM_011612	Mus musculus tumor necrosis factor receptor superfamily, member 9 (Tnfrsf9), mRNA.
Tnfsf10	NM_009425	Mus musculus tumor necrosis factor (ligand) superfamily, member 10 (Tnfsf10), mRNA.
Tnfsf11	NM_011613	Mus musculus tumor necrosis factor (ligand) superfamily, member 11 (Tnfsf11), mRNA.
Tnfsf12	NM_011614	Mus musculus tumor necrosis factor (ligand) superfamily, member 12 (Tnfsf12), mRNA.
Tnfsf13b	NM_033622	Mus musculus tumor necrosis factor (ligand) superfamily, member 13b
Tnfsf14	NM_019418.1	Mus musculus tumor necrosis factor (ligand) superfamily, member 14 (Tnfsf14)

Supplemental Material, Table 1

List Of All Genes On The Custom Immune Function Sentrix Array Matrix

Gene or Transcript ID	RefSeq ID	Name
Tnfsf18	NM_183391	Mus musculus tumor necrosis factor (ligand) superfamily, member 18 (Tnfsf18), mRNA.
Tnfsf4	NM_009452.1	Mus musculus tumor necrosis factor (ligand) superfamily, member 4 (Tnfsf4)
Tnfsf5	NM_011616	Mus musculus tumor necrosis factor (ligand) superfamily, member 5 (Tnfsf5), mRNA.
Tnfsf6	NM_010177	Mus musculus tumor necrosis factor (ligand) superfamily, member 6 (Tnfsf6), mRNA.
Tnfsf7	NM_011617	Mus musculus tumor necrosis factor (ligand) superfamily, member 7 (Tnfsf7), mRNA.
Tnfsf8	NM_009403	Mus musculus tumor necrosis factor (ligand) superfamily, member 8 (Tnfsf8), mRNA.
Tnfsf9	NM_009404	Mus musculus tumor necrosis factor (ligand) superfamily, member 9 (Tnfsf9), mRNA.
Tnip1	NM_021327	Mus musculus TNFAIP3 interacting protein 1 (Tnip1), mRNA.
Tpo	NM_009417	Mus musculus thyroid peroxidase (Tpo), mRNA.
Tradd	XM_134502	Mus musculus TNFRSF1A-associated via death domain (Tradd), mRNA.
Traf1	NM_009421	Mus musculus Tnf receptor-associated factor 1 (Traf1), mRNA.
Traf2	NM_009422	Mus musculus Tnf receptor-associated factor 2 (Traf2), mRNA.
Traf3	NM_011632	Mus musculus Tnf receptor-associated factor 3 (Traf3), mRNA.
Traf4	NM_009423	Mus musculus Tnf receptor associated factor 4 (Traf4), mRNA.
Traf5	NM_011633	Mus musculus Tnf receptor-associated factor 5 (Traf5), mRNA.
Traf6	NM_009424	Mus musculus Tnf receptor-associated factor 6 (Traf6), mRNA.
Traip	NM_011634	Mus musculus TRAF-interacting protein (Traip), mRNA.
Trp53	NM_011640	Mus musculus transformation related protein 53 (Trp53), mRNA.
Trp73	NM_011642	Mus musculus transformation related protein 73 (Trp73)
Txn1	NM_011660	Mus musculus thioredoxin 1 (Txn1), mRNA.
Txnrd1	NM_015762.1	Mus musculus thioredoxin reductase 1 (Txnrd1), mRNA.
Tyrobp	NM_011662	Mus musculus TYRO protein tyrosine kinase binding protein (Tyrobp), mRNA.
Ubb	NM_011664	Mus musculus ubiquitin B (Ubb), mRNA.
Ube2h	NM_009459	Mus musculus ubiquitin-conjugating enzyme E2H (Ube2h), mRNA.
Ugt1a1	NM_201645	Mus musculus UDP-glucuronosyltransferase 1 family, member 1
Vcam1	NM_011693	Mus musculus vascular cell adhesion molecule 1 (Vcam1), mRNA.
Vegfa	NM_009505	Mus musculus vascular endothelial growth factor A (Vegfa), mRNA.
Vegfb	NM_011697	Mus musculus vascular endothelial growth factor B (Vegfb), mRNA.
Vegfc	NM_009506	Mus musculus vascular endothelial growth factor C (Vegfc), mRNA.
Vim	NM_011701	Mus musculus vimentin (Vim), mRNA.
Vpreb1	NM_016982.1	Mus musculus pre-B lymphocyte gene 1 (Vpreb1), mRNA.
Vpreb3	NM_009514	Mus musculus pre-B lymphocyte gene 3 (Vpreb3), mRNA.
Was	NM_009515	Mus musculus Wiskott-Aldrich syndrome homolog (human) (Was), mRNA.
Xbp1	NM_013842	Mus musculus X-box binding protein 1 (Xbp1), mRNA.
Xcl1	NM_008510	Mus musculus chemokine (C motif) ligand 1 (Xcl1), mRNA.
Xcr1	NM_011798	Mus musculus chemokine (C motif) receptor 1 (Xcr1), mRNA.
Yes	NM_009535	Mus musculus Yamaguchi sarcoma viral (v-yes) oncogene homolog (Yes), mRNA.

Supplemental Material, Table 1

List Of All Genes On The Custom Immune Function Sentrix Array Matrix

Gene or Transcript ID	RefSeq ID	Name
Zap70	NM_009539	Mus musculus zeta-chain (TCR) associated protein kinase (Zap70), mRNA.
Zfp36	NM_011756	Mus musculus zinc finger protein 36 (Zfp36), mRNA.
Zfp36l1	NM_007564	Mus musculus zinc finger protein 36, C3H type-like 1 (Zfp36l1), mRNA.
Zfpn1a1	NM_009578	Mus musculus zinc finger protein, subfamily 1A, 1 (Ikaros) (Zfpn1a1), mRNA.
Aldh3a2		Mus musculus aldehyde dehydrogenase family 3, subfamily A2 (Aldh3a2), mRNA.
Hspa2		heat shock protein 2; heat shock protein, 70 kDa 2; heat shock 70kDa protein 2 [Mus musculus].
Hspa8		heat shock protein 8; heat shock protein cognate 70; heat shock 70kD protein 8 [Mus musculus].
Ms4a2		membrane-spanning 4-domains, subfamily A, member 2; Fc receptor, IgE, high affinity I, beta polypeptide; membrane-spanning
Mtcp1		Mus musculus mature T-cell proliferation 1 (Mtcp1), mRNA.
Pdcd6ip		Mus musculus programmed cell death 6 interacting protein (Pdcd6ip), mRNA.
Shcbp1		Mus musculus Shc SH2-domain binding protein 1 (Shcbp1), mRNA.

Supplemental Material, Table 2

List of All Genes Differentially Expressed by DEX, DES, CPS and TCDD^a

GenBank #	Symbol	Gene Name	DIFF Score							
			CPS Low Dose	CPS High Dose	DES Low Dose	DES High Dose	DEX Low Dose	DEX High Dose	TCDD Low Dose	TCDD High Dose
Total number of genes altered			2	98	120	145	170	213	8	73
Common to 4 Chemicals (high dose)										
NM_007632.1	Ccnd3	Mus musculus cyclin D3 (Ccnd3), mRNA.		-97	-102	-220	-46	-308		-21
NM_009331.2	Tcf7	Mus musculus transcription factor 7, T-cell specific (Tcf7), mRNA.		-182	-45	-86	-52	-300		-45
NM_016756.1	Cdk2	Mus musculus cyclin-dependent kinase 2 (Cdk2), mRNA.		-49	-56	-81	-65	-214		-34
NM_010278.1	Gfi1	Mus musculus growth factor independent 1 (Gfi1), mRNA.		-104	-56	-100	-56	-184		-21
NM_010689.2	Lat	Mus musculus linker for activation of T cells (Lat), mRNA.		-187	-65		-37	-181		-25
NM_010511.1	IFNGR1	Mus musculus interferon gamma receptor (Ifngr), mRNA.		-40	-78	-55	-25	-28		-20
NM_009794.1	Capn2	Mus musculus calpain 2 (Capn2), mRNA.		21	23	28	33	42		31
NM_008329.1	Ifi16	Mus musculus interferon, gamma-inducible protein 16 (Ifi16), mRNA.		50	45	20	97	43		23
NM_021524.1	Pbef1	Mus musculus pre-B-cell colony-enhancing factor (Pbef), mRNA.		38	48	56	36	43		23
NM_008161.1	Gpx3	Mus musculus glutathione peroxidase 3 (Gpx3), mRNA		30	21	50	43	47		22
NM_011662.2	Tyrobp	Mus musculus TYRO protein tyrosine kinase binding protein (Tyrobp), mRNA.		27	69	48	70	56		54
NM_008452.1	Klf2	Mus musculus Kruppel-like factor 2 (lung) (Klf2), mRNA.		23	63	39	66	67		79
NM_009807.1	Casp1	Mus musculus caspase 1 (Casp1), mRNA.		46	76	44	85	76		92
NM_010185.2	Fcer1g	Mus musculus Fc receptor, IgE, high affinity I, gamma polypeptide (Fcer1g), mRNA.		41	71	52	91	78		89
NM_010188.2	Fcgr3	Mus musculus Fc receptor, IgG, low affinity III (Fcgr3), mRNA.		50	59	35	90	97	22	85
NM_009696.2	ApoE	Mus musculus apolipoprotein E (ApoE), mRNA.		43	140	65	133	102		37
NM_010738.2	Ly6a	Mus musculus lymphocyte antigen 6 complex, locus A (Ly6a), mRNA.		74	143	32	124	110		115
Common to 3 Chemicals (high dose)										
NM_009828.1	Ccna2	Mus musculus cyclin A2 (Ccna2)		-189	-101	-371	-130	-371		
NM_009345.1	Dntt	Mus musculus deoxynucleotidyltransferase, terminal (Dntt), mRNA.		-371	-89	-365	-79	-371		
NM_010693.1	Lck	Mus musculus lymphocyte protein tyrosine kinase (Lck), mRNA.		-305	-56	-259	-66	-371		
NM_009019.1	Rag1	Mus musculus recombination activating gene 1 (Rag1), mRNA.		-284	-119	-247	-141	-371		
NM_009122.1	Satb1	Mus musculus special AT-rich sequence binding protein 1 (Satb1), mRNA.		-287	-81	-203	-115	-371		
NM_009858.1	Cd8b	Mus musculus CD8 antigen, beta chain (Cd8b), mRNA.		-261	-80	-267	-67	-358		

Supplemental Material, Table 2

List of All Genes Differentially Expressed by DEX, DES, CPS and TCDD^a

GenBank #	Symbol	Gene Name	DIFF Score						
			CPS Low Dose	CPS High Dose	DES Low Dose	DES High Dose	DEX Low Dose	DEX High Dose	TCDD Low Dose
NM_007642.2	Cd28	Mus musculus CD28 antigen (Cd28), mRNA.		-174	-44	-78	-37	-350	
NM_009103.2	Rrm1	Mus musculus ribonucleotide reductase M1 (Rrm1), mRNA.		-82	-91	-230	-94	-341	
NM_010247.1	XRCC6	Mus musculus thyroid autoantigen (G22p1), X-ray repair complementing defective repair in Chinese hamster cells 6 (Xrcc6), mRNA.		-299	-134	-349	-83	-329	
NM_009913.2	Ccr9	Mus musculus chemokine (C-C motif) receptor 9 (Ccr9)		-279	-99	-178	-63	-327	
XM_132621.3	Cd8a	Mus musculus CD8 antigen, alpha chain (Cd8a), mRNA.		-175	-62	-253	-81	-284	
NM_009382.2	Thy1	Mus musculus thymus cell antigen 1, theta (Thy1), mRNA.		-273	-89	-358	-41	-278	
NM_009878.2	Cdkn2d	Mus musculus cyclin-dependent kinase inhibitor 2D (p19, inhibits CDK4) (Cdkn2d), mRNA.		-156	-46	-155	-89	-275	
NM_011045.1	Pcna	Mus musculus proliferating cell nuclear antigen (Pcna), mRNA.		-148	-75	-261	-64	-274	
NM_007650.2	Cd5	Mus musculus CD5 antigen (Cd5), mRNA.		-131	-16	-63	-34	-272	
NM_008566.1	Mcm5	Mus musculus minichromosome maintenance deficient 5, cell division cycle 46 (<i>S. cerevisiae</i>) (Mcm5), mRNA.		-59	-51	-149	-46	-258	
NM_010901.1	Nfatc3	Mus musculus nuclear factor of activated T-cells, cytoplasmic, calcineurin-dependent 3 (Nfatc3), mRNA.		-74	-91	-147	-85	-252	
XM_290046.2	LOC333897	Mus musculus similar to T-cell receptor beta chain V region C5		-54	-29	-51		-251	
XM_359315.1	Arhh	Mus musculus ras homolog gene family, member H (Arhh), mRNA		-203	-59	-185	-49	-246	
NM_011568.1	THOC4	Mus musculus RNA and export factor binding protein 1 (Refbp1), THO complex 4		-50	-47	-82	-40	-236	
NM_001033126	CD27	Mus musculus tumor necrosis factor receptor superfamily, member 7 (Tnfrsf7), CD antigen 27 (CD27) mRNA.		-206	-57	-117	-25	-226	
NM_009911.2	Cxcr4	Mus musculus chemokine (C-X-C motif) receptor 4 (Cxcr4), mRNA.		-165	-111	-188	-112	-219	
NM_009850.1	Cd3g	Mus musculus CD3 antigen, gamma polypeptide (Cd3g), mRNA.		-89	-42	-109	-29	-187	
NM_007648.1	Cd3e	Mus musculus CD3 antigen, epsilon polypeptide (Cd3e), mRNA.		-148	-33	-60	-24	-186	
NM_008091.2	Gata3	Mus musculus GATA binding protein 3 (Gata3), mRNA.		-97		-61	-33	-181	
NM_013487.1	Cd3d	Mus musculus CD3 antigen, delta polypeptide (Cd3d), mRNA.		-169	-42	-106	-37	-168	
NM_010703.2	Lef1	Mus musculus lymphoid enhancer binding factor 1 (Lef1), mRNA.		-65		-48	-25	-166	
NM_021366.2	Klf13	Mus musculus Kruppel-like factor 13 (Klf13), mRNA.		-118	-35	-58	-46	-163	
NM_011195.1	Ptcra	Mus musculus pre T-cell antigen receptor alpha (Ptcra), mRNA.		-32	-42	-49		-157	
NM_009744.2	Bcl6	Mus musculus B-cell leukemia/lymphoma 6 (Bcl6), mRNA.		-102	-54	-36	-80	-157	
NM_010583.1	Itk	Mus musculus IL2-inducible T-cell kinase (Itk), mRNA.		-75	-28	-62	-38	-151	
NM_010370.1	Gzma	Mus musculus granzyme A (Gzma), mRNA.		-30		-62		-112	
NM_009852.1	Cd6	Mus musculus CD6 antigen (Cd6), mRNA.		-35		-53	-21	-107	

Supplemental Material, Table 2

List of All Genes Differentially Expressed by DEX, DES, CPS and TCDD^a

GenBank #	Symbol	Gene Name	DIFF Score						TCDD Low Dose	TCDD High Dose
			CPS Low Dose	CPS High Dose	DES Low Dose	DES High Dose	DEX Low Dose	DEX High Dose		
NM_013488.1	Cd4	Mus musculus CD4 antigen (Cd4), mRNA.		-53	-34	-67	-30	-102		
NM_008511.2	Lrmp	Mus musculus lymphoid-restricted membrane protein (Lrmp), mRNA.		-103	-49	-168	-37	-100		
NM_019436.1	SIT1	Mus musculus SHP2 interacting transmembrane adaptor (Sit), mRNA.		-27	-32	-46		-98		
NM_009539.2	Zap70	Mus musculus zeta-chain (TCR) associated protein kinase (Zap70), mRNA.		-50	-22	-72		-86		
NM_010551.1	Il16	Mus musculus interleukin 16 (Il16), mRNA.		-95	-39	-90		-86		
NM_007913.2	Egr1	Mus musculus early growth response 1 (Egr1), mRNA.		-45	-40	-60	-32	-83		
NM_021420.2	Stk4	Mus musculus serine/threonine kinase 4 (Stk4), mRNA.		-64		-25		-77		
NM_011210.1	Ptprc	Mus musculus protein tyrosine phosphatase, receptor type, C (Ptprc), mRNA.		-112	-46	-74	-25	-64		
NM_009515.1	Was	Mus musculus Wiskott-Aldrich syndrome homolog (human) (Was), mRNA.		-28		-27		-59		
NM_007783.2	Csk	Mus musculus c-src tyrosine kinase (Csk), mRNA.		-28		-36		-53		
NM_009138.1	Ccl25	Mus musculus chemokine (C-C motif) ligand 25 (Ccl25), mRNA.				-23		-46	22	42
NM_009896.1	Socs1	Mus musculus suppressor of cytokine signaling 1 (Socs1), mRNA.		-30	-21	-50		-40		
NM_013716.1	G3BP1	Mus musculus Ras-GTPase-activating protein SH3-domain binding protein 1 (G3bp1), mRNA		-24	-23	-29		-38		
NM_011489.2	Stat5b	Mus musculus signal transducer and activator of transcription 5B (Stat5b), mRNA.		-21	-35	-50		-38		
NM_010118.1	Egr2	Mus musculus early growth response 2 (Egr2), mRNA.		-27		-23		-37		
NM_007569.1	Btg1	Mus musculus B-cell translocation gene 1, anti-proliferative (Btg1), mRNA		-26		-21		-25		
NM_010742.1	Ly6d	Mus musculus lymphocyte antigen 6 complex, locus D (Ly6d), mRNA.			-30	-67		-22		27
XM_147265.1	Comt	Mus musculus catechol-O-methyltransferase (Comt), mRNA.		31		33	31			24
NM_009829.2	Ccnd2	Mus musculus cyclin D2 (Ccnd2), mRNA.		23			57	21		31
NM_008599.1	Cxcl9	Mus musculus chemokine (C-X-C motif) ligand 9 (Cxcl9), mRNA.		35	29	21	56	25		
NM_007388.1	Acp5	Mus musculus acid phosphatase 5, tartrate resistant (Acp5), mRNA.			40	42		25		31
NM_009760.2	Bnip3	Mus musculus BCL2/adenovirus E1B 19kDa-interacting protein 1, NIP3				50		26		26
NM_011888.2	Ccl19	Mus musculus chemokine (C-C motif) ligand 19 (Ccl19), mRNA.			27	26	34	26		21
NM_017372.2	LYZ	Mus musculus lysozyme (Lyzs), mRNA			26	53		27		29
NM_009371.2	Tgfr2	Mus musculus transforming growth factor, beta receptor II (Tgfr2), transcript variant 1, mRNA.		22	28	31	38	28		
NM_009842.1	Cd151	Mus musculus CD151 antigen (Cd151), mRNA.		26	23	31	28	32		
NM_019932.1	Cxcl4	Mus musculus chemokine (C-X-C motif) ligand 4 (Cxcl4), mRNA.				22		35		28

Supplemental Material, Table 2

List of All Genes Differentially Expressed by DEX, DES, CPS and TCDD^a

GenBank #	Symbol	Gene Name	DIFF Score								
			CPS Low Dose	CPS High Dose	DES Low Dose	DES High Dose	DEX Low Dose	DEX High Dose	TCDD Low Dose	TCDD High Dose	
NM_010276.1	Gem	Mus musculus GTP binding protein (gene overexpressed in skeletal muscle) (Gem), mRNA.		25				27	35		28
NM_010189.1	Fcgrt	Mus musculus Fc receptor, IgG, alpha chain transporter (Fcgrt), mRNA.		28		29		50	36		
NM_008969.1	Ptgs1	Mus musculus prostaglandin-endoperoxide synthase 1 (Ptgs1), mRNA.		41	28			23	38		74
NM_013602.2	MT1E	Mus musculus metallothionein 1 (Mt1), mRNA			31	50		57	39		24
NM_009994.1	Cyp1b1	Mus musculus cytochrome P450, family 1, subfamily b, polypeptide 1 (Cyp1b1), mRNA.				25		40	40	21	176
NM_009841.2	Cd14	Mus musculus CD14 antigen (Cd14), mRNA.		22	31	34			41		
NM_133836.1	Il15ra	Mus musculus interleukin 15 receptor, alpha chain (Il15ra), mRNA.		22		24		38	41		
NM_010545.2	CD74	Mus musculus CD74 antigen (invariant polypeptide of major histocompatibility complex, class II antigen-associated) (Cd74), transcript variant 2,			60	22		67	42	22	74
NM_008198.1	H2-Bf	Mus musculus histocompatibility 2, complement component factor B (H2-Bf), mRNA.		31	25	40		33	46		
NM_007796.1	Ctla2a	Mus musculus cytotoxic T lymphocyte-associated protein 2 alpha (Ctla2a)			43	90		42	48		23
NM_009778.1	C3	Mus musculus complement component 3 (C3), mRNA.		35	31	72		71	51		
NM_010382.1	H2-Eb1	Mus musculus histocompatibility 2, class II antigen E beta (H2-Eb1), mRNA.			101	35		72	51		23
NM_010736.1	Ltbr	Mus musculus lymphotoxin B receptor (Ltbr), mRNA.		21				32	51		21
NM_021443.1	Ccl8	Mus musculus chemokine (C-C motif) ligand 8 (Ccl8), mRNA.		33	54	61		31	53		
NM_010378.2	H2-Aa	Mus musculus histocompatibility 2, class II antigen A, alpha (H2-Aa), mRNA.			80	31		81	53	26	77
NM_011335.1	CCL21	Mus musculus chemokine (C-C motif) ligand 21a (leucine) (Ccl21a), mRNA.			27	37		114	56	24	55
NM_007646.2	Cd38	Mus musculus CD38 antigen (Cd38), mRNA.		23	26	39		51	60		
NM_009735.2	B2m	Mus musculus beta-2 microglobulin (B2m), mRNA.			86	37		75	62		72
NM_010379.2	H2-Ab1	Mus musculus histocompatibility 2, class II antigen A, beta 1 (H2-Ab1), mRNA.			68	25		98	63		34
NM_009655.1	Alcam	Mus musculus activated leukocyte cell adhesion molecule (Alcam), mRNA		24	29			39	65		21
NM_010741.1	Ly6c	Mus musculus lymphocyte antigen 6 complex, locus C (Ly6c), mRNA.		29	77	24		68	66		
NM_001001892	H2-K1	Mus musculus histocompatibility 2, K region (H2-K), mRNA.		45	43	27		138	85		
NM_011338.1	Ccl9	Mus musculus chemokine (C-C motif) ligand 9 (Ccl9), mRNA.		31	27	34			89		
NM_008706.1	Nqo1	Mus musculus NAD(P)H dehydrogenase, quinone 1 (Nqo1), mRNA.		33				87	128		38

Supplemental Material, Table 2

List of All Genes Differentially Expressed by DEX, DES, CPS and TCDD^a

GenBank #	Symbol	Gene Name	DIFF Score							
			CPS Low Dose	CPS High Dose	DES Low Dose	DES High Dose	DEX Low Dose	DEX High Dose	TCDD Low Dose	TCDD High Dose
NM_023716.1	TUBB2B	Mus musculus tubulin, beta 2b (Tubb2b), mRNA		-31	-25	-53	-55			-71
Common to 2 Chemicals (high dose)										
NM_007633.1	Ccne1	Mus musculus cyclin E1 (Ccne1), mRNA.			-25	-48	-65	-218		
XM_359386.1	LOC386543	Mus musculus similar to T-cell receptor beta V(E1)-D(1)-J(2.5)			-25	-35		-86		
XM_132882.1	Cd69	Mus musculus CD69 antigen (Cd69), mRNA.		-29				-68		
NM_007610.1	Casp2	Mus musculus caspase 2 (Casp2), mRNA.			-23	-32	-20	-64		
NM_013486.1	Cd2	Mus musculus CD2 antigen (Cd2), mRNA		-41				-59		
NM_009810.1	Casp3	Mus musculus caspase 3, apoptosis related cysteine protease (Casp3), mRNA.				-20	-26	-52		
NM_009424.2	Traf6	Mus musculus Tnf receptor-associated factor 6 (Traf6), mRNA.			-37	-53		-50		
NM_010090.2	Dusp2	Mus musculus dual specificity phosphatase 2 (Dusp2), mRNA.		-22				-50		
XM_147220.1	LOC224114	Mus musculus similar to tyrosine kinase, non-receptor, 2; Cdc42 GTPase-inhibiting protein; P21cdc42Hs kinase; activated p21cdc42Hs				-25		-44		
NM_011949.2	Mapk1	Mus musculus mitogen activated protein kinase 1 (Mapk1)			-22	-30	-23	-40		
NM_009846.1	CD24	Mus musculus CD24a antigen (Cd24a), mRNA.				-54	-59	-35		
NM_009870.2	Cdk4	Mus musculus cyclin-dependent kinase 4 (Cdk4)				-24		-35		
NM_009840.2	Cct8	Mus musculus chaperonin subunit 8 (theta) (Cct8), mRNA.				-27		-24		
XM_203222.2	LOC276756	Mus musculus similar to heat shock protein 86 (LOC276756)			-60	-88		-23		
NM_010786.2	Mdm2	Mus musculus transformed mouse 3T3 cell double minute 2 (Mdm2), mRNA.				-38				-22
NM_010481.1	HSPA9	Mus musculus heat shock protein, A (Hspa9a), mRNA.				30				20
NM_007651.2	Cd53	Mus musculus CD53 antigen (Cd53), mRNA.			38	28	55			90
NM_011701.3	Vim	Mus musculus vimentin (Vim), mRNA.			27	38	29			44
NM_008160.1	Gpx1	Mus musculus glutathione peroxidase 1 (Gpx1), mRNA			34	48	22			24
NM_008551.1	Mapkapk2	Mus musculus MAP kinase-activated protein kinase 2 (Mapkapk2), mRNA.			21	23				22
NM_010161.1	Evi2a	Mus musculus ecotropic viral integration site 2a (Evi2a), mRNA.				23	24	20		
NM_007915.1	Ei24	Mus musculus etoposide induced 2.4 mRNA (Ei24), mRNA.				24	29	21		
NM_133655.1	Cd81	Mus musculus CD 81 antigen (Cd81), mRNA.			26	24	22	22		
NM_009883.1	Cebpb	Mus musculus CCAAT/enhancer binding protein (C/EBP), beta (Cebpb), mRNA.				45	35	23		
NM_007643.2	Cd36	Mus musculus CD36 antigen (Cd36), mRNA.				49	30	23		

Supplemental Material, Table 2

List of All Genes Differentially Expressed by DEX, DES, CPS and TCDD^a

GenBank #	Symbol	Gene Name	DIFF Score								
			CPS Low Dose	CPS High Dose	DES Low Dose	DES High Dose	DEX Low Dose	DEX High Dose	TCDD Low Dose	TCDD High Dose	
NM_009656.1	Aldh2	Mus musculus aldehyde dehydrogenase 2, mitochondrial (Aldh2)				24			26		
NM_008528.3	Blnk	Mus musculus B-cell linker (Blnk), mRNA.			23	31		21	27		
NM_021282.1	Cyp2e1	Mus musculus cytochrome P450, family 2, subfamily e, polypeptide 1 Cyp2e1				21			27		
NM_015729.1	Acox1	Mus musculus acyl-Coenzyme A oxidase 1, palmitoyl (Acox1), mRNA.				33		34	28		
NM_010358.2	GSTMS	Mus musculus glutathione S-transferase, mu 1 (Gstm1), mRNA.				21			28		
NM_008390.1	Irf1	Mus musculus interferon regulatory factor 1 (Irf1), mRNA.						49	29		25
NM_007779.1	Csf1r	Mus musculus colony stimulating factor 1 receptor (Csf1r), mRNA.			42	29		35	30		
NM_007669.2	Cdkn1a	Mus musculus cyclin-dependent kinase inhibitor 1A (P21) (Cdkn1a), mRNA.			24	52			33		
NM_007537.1	Bcl2l2	Mus musculus Bcl2-like 2 (Bcl2l2), mRNA.		21				25	33		
NM_010555.2	Il1r2	Mus musculus interleukin 1 receptor, type II (Il1r2), mRNA.			28			29	34		58
NM_010493.2	Icam1	Mus musculus intercellular adhesion molecule (Icam1)			20			45	35		25
NM_007534.1	Bcl2a1b	Mus musculus B-cell leukemia/lymphoma 2 related protein A1b (Bcl2a1b), mRNA.						44	35		38
NM_011693.2	Vcam1	Mus musculus vascular cell adhesion molecule 1 (Vcam1), mRNA.			23			32	38	24	23
NM_007654.1	Cd72	Mus musculus CD72 antigen (Cd72), mRNA.				23		53	38		
XM_132169.1	IGJ	Mus musculus immunoglobulin joining chain (Igj), mRNA.			213	63		60	39		
NM_010381.2	H2-Ea	Mus musculus histocompatibility 2, class II antigen E alpha (H2-Ea), mRNA.						77	40	28	55
NM_010386.2	H2-DMa	Mus musculus histocompatibility 2, class II, locus DMa (H2-DMa), mRNA.			22			50	45		33
NM_021893.2	CD274	Mus musculus programmed cell death 1 ligand 1 (Pcdcl1g1), CD274 antigen (Cd274), mRNA.						57	47		25
NM_009283.2	Stat1	Mus musculus signal transducer and activator of transcription 1 (Stat1), mRNA.		21	38			78	49		
NM_030712.1	Cxcr6	Mus musculus chemokine (C-X-C motif) receptor 6 (Cxcr6),		37	23			81	52		
NM_008371.2	Il7	Mus musculus interleukin 7 (Il7), mRNA.						100	57		23
NM_008349.1	Il10rb	Mus musculus interleukin 10 receptor, beta (Il10rb), mRNA.			24	23		33	57		
NM_010387.2	H2-DMb1	Mus musculus histocompatibility 2, class II, locus Mb1 (H2-DMb1), mRNA.						61	59		28
NM_201645.1-S	Ugt1a1	Mus musculus UDP-glucuronosyltransferase 1 family, member 1						22	59		39
NM_010187.1	Fcgr2b	Mus musculus Fc receptor, IgG, low affinity IIb (Fcgr2b), mRNA.			32			26	63		46
NM_008873.2	Plau	Mus musculus plasminogen activator, urokinase (Plau), mRNA.						41	63		34
NM_010407.3	Hck	Mus musculus hemopoietic cell kinase (Hck), mRNA.			27			65	65		43

Supplemental Material, Table 2

List of All Genes Differentially Expressed by DEX, DES, CPS and TCDD^a

GenBank #	Symbol	Gene Name	DIFF Score								
			CPS Low Dose	CPS High Dose	DES Low Dose	DES High Dose	DEX Low Dose	DEX High Dose	TCDD Low Dose	TCDD High Dose	
NM_133990.3	Il13ra1	Mus musculus interleukin 13 receptor, alpha 1 (Il13ra1)		32				40	66		
NM_009876.2	Cdkn1c	Mus musculus cyclin-dependent kinase inhibitor 1C (P57) (Cdkn1c), mRNA.		24	21			34	67		
NM_009366.1	TSC22D1	Mus musculus transforming growth factor beta 1 induced transcript 4 (Tgfb1i4), TSC22 domain family, member 1 (tsc22d1) mRNA.						104	75		20
NM_010654.1	Klrd1	Mus musculus killer cell lectin-like receptor, subfamily D, member 1 (Klrd1), mRNA.						62	82		25
NM_007572.1	C1qa	Mus musculus complement component 1, q subcomponent, alpha polypeptide (C1qa), mRNA.		52	74			157	113		
NM_011234.2	Rad51	Mus musculus RAD51 homolog (S. cerevisiae) (Rad51), mRNA.		-25			-36	-58			
Unique to 1 Chemical (high dose)											
NM_011997.1	Casp8ap2	Mus musculus caspase 8 associated protein 2 (Casp8ap2), mRNA.						-21	-54		
NM_008279.1	Map4k1	Mus musculus mitogen activated protein kinase kinase kinase kinase 1 (Map4k1), mRNA.							-46		
NM_009192.1	Sla	Mus musculus src-like adaptor (Sla), mRNA.							-38		
NM_010494.1	Icam2	Mus musculus intercellular adhesion molecule 2 (Icam2), mRNA.							-38		
NM_011488.2	Stat5a	Mus musculus signal transducer and activator of transcription 5A (Stat5a), mRNA.							-34		
NM_007987.1	FAS	Mus musculus FAS tumor necrosis factor receptor superfamily, member 6 (Tnfrsf6), mRNA.							-33		
XM_133034.1	Ube2h	Mus musculus ubiquitin-conjugating enzyme E2H (Ube2h), mRNA.							-28		
NM_010798.1	Mif	Mus musculus macrophage migration inhibitory factor (Mif), mRNA.							-27		
NM_009811.2	Casp6	Mus musculus caspase 6 (Casp6), mRNA.							-27		
NM_009952.1	Creb1	Mus musculus cAMP responsive element binding protein 1 (Creb1),							-26		
NM_178654.2	Pkn2	Mus musculus protein kinase N2 (Pkn2), mRNA							-23		
NM_009029.1	Rb1	Mus musculus retinoblastoma 1 (Rb1), mRNA.						-25	-21		
NM_011331	Ccl12	Mus musculus chemokine (C-C motif) ligand 12 (Ccl12), mRNA.						51	20		
NM_010580.1	Itgb5	Mus musculus integrin beta 5 (Itgb5), mRNA.							20		
NM_009845.1	Cd22	Mus musculus CD22 antigen (Cd22), mRNA.						34	22		
NM_008416.1	Junb	Mus musculus Jun-B oncogene (Junb), mRNA.							22		
NM_019639.2	Ubc	Mus musculus ubiquitin C (Ubc), mRNA				30		24	22		
NM_016778.1	Bok	Mus musculus Bcl-2-related ovarian killer protein (Bok), mRNA							22		
NM_010648.1	Klra3	Mus musculus killer cell lectin-like receptor, subfamily A, member 3 (Klra3), mRNA.						38	22		

Supplemental Material, Table 2

List of All Genes Differentially Expressed by DEX, DES, CPS and TCDD^a

GenBank #	Symbol	Gene Name	DIFF Score							
			CPS Low Dose	CPS High Dose	DES Low Dose	DES High Dose	DEX Low Dose	DEX High Dose	TCDD Low Dose	TCDD High Dose
NM_010360.1	Gstm5	Mus musculus glutathione S-transferase, mu 5 (Gstm5), mRNA.							23	
NM_019971.2	Pdgfc	Mus musculus platelet-derived growth factor, C polypeptide							23	
XM_354704.1	LOC380793	Mus musculus similar to Ig gamma-2A chain C region secreted form							24	
NM_009769.2	Klf5	Mus musculus Kruppel-like factor 5 (Klf5), mRNA.							25	
NM_010637.1	Klf4	Mus musculus Kruppel-like factor 4 (gut) (Klf4), mRNA.							26	
NM_007609.1	Casp4	Mus musculus caspase 4, apoptosis-related cysteine protease (Casp4), mRNA.							26	
NM_009370.2	Tgfr1	Mus musculus transforming growth factor, beta receptor I (Tgfr1), mRNA.							27	
NM_033622.1	Tnfrsf13b	Mus musculus tumor necrosis factor (ligand) superfamily, member 13b							27	
NM_013819.1	H2-M3	Mus musculus histocompatibility 2, M region locus 3 (H2-M3), mRNA.						26	27	
NM_011609.2	Tnfrsf1a	Mus musculus tumor necrosis factor receptor superfamily, member 1a (Tnfrsf1a), mRNA.							27	
NM_016741.1	Scarb1	Mus musculus scavenger receptor class B, member 1 (Scarb1), mRNA.						28	28	
NM_009142.2	Cx3cl1	Mus musculus chemokine (C-X3-C motif) ligand 1 (Cx3cl1), mRNA.							28	
NM_010560.2	Il6st	Mus musculus interleukin 6 signal transducer (Il6st), mRNA.						28	28	
NM_009983.2	Ctsd	Mus musculus cathepsin D (Ctsd), mRNA.						41	28	
NM_010591.1	Jun	Mus musculus Jun oncogene (Jun), mRNA.							29	
NM_008518.1	Ltb	Mus musculus lymphotoxin B (Ltb), mRNA.						40	30	
NM_009742.2	Bcl2a1a	Mus musculus B-cell leukemia/lymphoma 2 related protein A1a (Bcl2a1a), mRNA.						22	30	
XM_125954.4	ErbB3	Mus musculus v-erb-b2 erythroblastic leukemia viral oncogene homolog 3 (avian) (ErbB3), mRNA.							30	
NM_013598.1	Kitl	Mus musculus kit ligand (Kitl), mRNA.						35	30	
NM_009741.2	Bcl2	Mus musculus B-cell leukemia/lymphoma 2 (Bcl2), mRNA.							30	
NM_207648.1	H2-Q6	Mus musculus histocompatibility 2, Q region locus 6 (H2-Q6), mRNA.						38	31	
NM_008510.1	Xcl1	Mus musculus chemokine (C motif) ligand 1 (Xcl1), mRNA.						26	32	
NM_008399.1	Itgae	Mus musculus integrin, alpha E, epithelial-associated (Itgae), mRNA.						23	32	
NM_007778.1	Csf1	Mus musculus colony stimulating factor 1 (macrophage) (Csf1), mRNA.						22	33	
NM_008808.2	Pdgfa	Mus musculus platelet derived growth factor, alpha (Pdgfa), mRNA							34	
NM_008357.1	Il15	Mus musculus interleukin 15 (Il15), mRNA.						39	34	
NM_009046.2	Relb	Mus musculus avian reticuloendotheliosis viral (v-rel) oncogene related B (Relb), mRNA.						60	36	

Supplemental Material, Table 2

List of All Genes Differentially Expressed by DEX, DES, CPS and TCDD^a

GenBank #	Symbol	Gene Name	DIFF Score								
			CPS Low Dose	CPS High Dose	DES Low Dose	DES High Dose	DEX Low Dose	DEX High Dose	TCDD Low Dose	TCDD High Dose	
NM_010549.1	Il11ra1	Mus musculus interleukin 11 receptor, alpha chain 1 (Il11ra1), mRNA.						31	36		
NM_008361.2	Il1b	Mus musculus interleukin 1 beta (Il1b), mRNA.						92	36		
NM_010740.1	CD93	Mus musculus complement component 1, q subcomponent, receptor 1 (C1qr1), CD93 antigen (Cd93), mRNA.								37	
NM_021334.1	Itgax	Mus musculus integrin alpha X (Itgax), mRNA.						30	43		
NM_009854.1	Cd7	Mus musculus CD7 antigen (Cd7), mRNA.						30	43		
NM_011330.1	Ccl11	Mus musculus small chemokine (C-C motif) ligand 11 (Ccl11), mRNA.			32			51	44		
NM_008368.3	Il2rb	Mus musculus interleukin 2 receptor, beta chain (Il2rb), mRNA.						47	45		
NM_008348.1	Il10ra	Mus musculus interleukin 10 receptor, alpha (Il10ra), mRNA.						51	48		
NM_010388.1	H2-DMb2	Mus musculus histocompatibility 2, class II, locus Mb2 (H2-DMb2), mRNA.						68	48		
NM_009853.1	Cd68	Mus musculus CD68 antigen (Cd68), mRNA.						38	52		
NM_008372.3	Il7r	Mus musculus interleukin 7 receptor (Il7r), mRNA.			30			39	53		
NM_013566.1	Itgb7	Mus musculus integrin beta 7 (Itgb7), mRNA.						73	59		
NM_141803162	Ccl2	Mus musculus chemokine (C-C motif) ligand 2 (Ccl2), mRNA.						40	66		
NM_011332.2	Ccl17	Mus musculus chemokine (C-C motif) ligand 17 (Ccl17), mRNA.						32	69		
NM_009139.1	Ccl6	Mus musculus chemokine (C-C motif) ligand 6 (Ccl6), mRNA.							78		
NM_010784.2	Mdk	Mus musculus midkine (Mdk), mRNA.						55	105		
NM_009151.2	SELPLG	Mus musculus selectin, platelet (p-selectin) ligand (Selpl), mRNA.					-32				
NM_033075.2	D17H6S56E-5	Mus musculus DNA segment, Chr 17, human D6S56E 5 (D17H6S56E-5), mRNA.					-23				
NM_013674.1	Irf4	Mus musculus interferon regulatory factor 4 (Irf4), mRNA.			28		33				
NM_013654.2	Ccl7	Mus musculus chemokine (C-C motif) ligand 7 (Ccl7), mRNA.		24							
NM_008714.2	Notch1	Mus musculus Notch gene homolog 1 (Drosophila) (Notch1), mRNA.					-45				
NM_010849.2	Myc	Mus musculus myelocytomatosis oncogene (Myc), mRNA.					-30				
NM_008529.2	Ly6e	Mus musculus lymphocyte antigen 6 complex, locus E (Ly6e), mRNA			-28		-25				
NM_175860.1	GIMAP1	Mus musculus GTPase, IMAP family member 1 (Gimap1), transcript variant 2, mRNA					-24				
NM_010918.1	Nktr	Mus musculus natural killer tumor recognition sequence (Nktr), mRNA.					-22				
NM_008562.2	Mcl1	Mus musculus myeloid cell leukemia sequence 1 (Mcl1), mRNA.					-21				
NM_007639.1	CD1D	Mus musculus CD1d1 antigen (Cd1d1), mRNA.					21				
NM_008155.1	Gpi1	Mus musculus glucose phosphate isomerase 1 (Gpi1), mRNA.					21				

Supplemental Material, Table 2

List of All Genes Differentially Expressed by DEX, DES, CPS and TCDD^a

GenBank #	Symbol	Gene Name	DIFF Score						
			CPS Low Dose	CPS High Dose	DES Low Dose	DES High Dose	DEX Low Dose	DEX High Dose	TCDD Low Dose
NM_007631.1	Ccnd1	Mus musculus cyclin D1 (Ccnd1), mRNA.				27	29		
NM_013671.2	Sod2	Mus musculus superoxide dismutase 2, mitochondrial (Sod2), mRNA				27			
NM_198640.1	AI324046	Mus musculus expressed sequence AI324046 (AI324046), mRNA.	-32			31			
NM_009736.1	Bag1	Mus musculus Bcl2-associated athanogene 1 (Bag1), mRNA.				33			
NM_013653.1	Ccl5	Mus musculus chemokine (C-C motif) ligand 5 (Ccl5), mRNA.			33	39	50		
NM_009856.1	Cd83	Mus musculus CD83 antigen (Cd83), mRNA.					49		31
XM_129752.1	Casp8	Mus musculus caspase 8 (Casp8)							20
NM_021099.2	Kit	Mus musculus kit oncogene (Kit), mRNA.							22
NM_007464.1	Birc3	Mus musculus baculoviral IAP (inhibitor of apoptosis protein) repeat-containing 3 (BIRC), mRNA.							24
NM_009812.1	Casp8	Mus musculus caspase 8 (Casp8), transcript variant 1, mRNA							25
NM_010362.1	Gsto1	Mus musculus glutathione S-transferase omega 1 (Gsto1), mRNA							26
NM_010431.1	Hif1a	Mus musculus hypoxia inducible factor 1, alpha subunit (Hif1a),							29
NM_008206.1	H2-Oa	Mus musculus histocompatibility 2, O region alpha locus (H2-Oa), mRNA.					35		36
NM_011659.1	Tnfrsf4	Mus musculus tumor necrosis factor receptor superfamily, member 4 (Tnfrsf4)							38
NM_007564.2	Zfp36l1	Mus musculus zinc finger protein 36, C3H type-like 1 (Zfp36l1), mRNA.				22			43
NM_009801.3	Car2	Mus musculus carbonic anhydrase 2 (Car2), mRNA.				21			
NM_008869.2	Pla2g4a	Mus musculus phospholipase A2, group IVA (cytosolic, calcium-dependent) (Pla2g4a),		25					
NM_013642.1	Dusp1	Mus musculus dual specificity phosphatase 1 (Dusp1), mRNA.				26			
NM_008367.2	Il2ra	Mus musculus interleukin 2 receptor, alpha chain (Il2ra), mRNA.					39		
NM_009915.1	Ccr2	Mus musculus chemokine (C-C) receptor 2 (Ccr2), mRNA.				23			
NM_011611.1	CD40	Mus musculus tumor necrosis factor receptor superfamily, member 5 (Tnfrsf5), CD40 antigen (CD40), transcript variant 1 mRNA.					30		
NM_013706.1	Cd52	Mus musculus CD52 antigen (Cd52), mRNA.	-22		22		35		
XM_126545.2	LOC217069	Mus musculus similar to estrogen-responsive finger protein					39		
NM_008360.1	Il18	Mus musculus interleukin 18 (Il18), mRNA.					20		
NM_013599.2	Mmp9	Mus musculus matrix metalloproteinase 9 (Mmp9), mRNA.					34		
NM_007719.1	Ccr7	Mus musculus chemokine (C-C motif) receptor 7 (Ccr7), mRNA.					49		
NM_053108.2	GLRX	Mus musculus glutaredoxin, mRNA.				28			
NM_021274.1	Cxcl10	Mus musculus chemokine (C-X-C motif) ligand 10 (Cxcl10)					39		

Supplemental Material, Table 2

List of All Genes Differentially Expressed by DEX, DES, CPS and TCDD^a

GenBank #	Symbol	Gene Name	DIFF Score							
			CPS Low Dose	CPS High Dose	DES Low Dose	DES High Dose	DEX Low Dose	DEX High Dose	TCDD Low Dose	TCDD High Dose
NM_008927.1	Map2k1	Mus musculus mitogen activated protein kinase kinase 1 (Map2k1), mRNA.						29		
NM_013655.2	Cxcl12	Mus musculus chemokine (C-X-C motif) ligand 12 (Cxcl12), transcript variant 2, mRNA.						49		
NM_011095.1	LILRB3	Mus musculus paired-Ig-like receptor B (Pirb),leukocyte immunoglobulin-like receptor, subfamily B (with TM and ITIM domains), member 3 (Lilrb3), mRNA						26		

^aDifferential expression is relative to the matched vehicle control, N=4 female B6C3F1 mice.

All animals were treated for five consecutive days as described in Materials and Methods.

DEX High 5.0 mg/kg/day, DEX Low 0.5 mg/kg/day, DES High 8.0 mg/kg/day, DES Low 0.8 mg/kg/day,

CPS High 50.0 mg/kg/day, CPS Low 5.0 mg/kg/day, TCDD High 3.0 µg/kg/day, TCDD Low 0.3 µg/kg/day

Supplemental Material Tables 3A-3C Ingenuity Pathway Analysis Pathway and Function Analyses for DEX, DES, CPS, and TCDD
Table 3A Global Pathway Comparison for DEX, DES, CPS and TCDD^a

Pathway Name	# Genes in Pathway	DEX		DES		CPS		TCDD	
		p-value	# Genes Altered	p-value	# Genes Altered	p-value	# Genes Altered	p-value	# Genes Altered
Common to Four Chemicals									
Dendritic Cell Maturation	143	3.2E-17	23	2.0E-6	10	4.0E-3	5	1.1E-15	15
CD28 Signaling in T-helper Cells	108	1.0E-12	17	5.6E-12	14	5.1E-14	14	3.3E-4	5
Crosstalk between Dendritic and NK Cells	78	1.3E-11	14	8.4E-3	4	2.7E-4	5	4.1E-6	6
CTLA4 Signaling in Cytotoxic T-Lymphocytes	84	6.8E-8	11	9.8E-7	9	1.0E-10	8	9.4E-5	5
T-helper Cell Differentiation	37	7.9E-8	8	5.4E-4	4	2.5E-3	3	1.6E-6	5
Communication between Innate and Adaptive Immune Cells	70	1.2E-7	10	7.1E-6	7	1.6E-4	5	5.8E-4	4
Natural Killer (NK) Cell Signaling	89	4.7E-4	95	3.0E-4	6	4.9E-4	5	1.4E-3	4
Common to Three Chemicals									
T-cell Receptor Signaling	95	1.2E-12	16	3.5E-14	15	6.3E-15	14		
Antigen Presentation	29	3.4E-10	9	2.1E-4	4			2.1E-12	8
Primary Immunodeficiency Signaling	45	1.0E-9	10	5.0E-10	9	9.0E-10	8		
Cytotoxic T-lymphocyte Mediated Apoptosis of Target Cells	26	3.7E-9	8	5.8E-6	5	3.6E-5	4		
IL-4 Signaling	66	5.7E-8	10	4.3E-6	7			2.1E-9	8
B-cell Receptor Signaling	141	2.5E-7	13	9.9E-5	8	6.0E-4	6		
IL-10 Signaling	59	2.9E-7	9	3.1E-3	4			4.1E-3	3
IL-15 Signaling	60	3.8E-6	8	3.3E-3	4	9.7E-3	3		
IL-2 Signaling	53	1.7E-5	7	2.1E-3	4	6.9E-3	3		
JAK/STAT Signaling	61	3.6E-4	6	3.5E-3	4	1.0E-2	3		
Common to Two Chemicals									
IL-6 Signaling	86	8.5E-7	10	2.5E-4	6				
Apoptosis Signaling	84	6.0E-6	9					1.1E-3	4
IL-22 Signaling	26	4.4E-5	5	2.3E-3	3				
Interferon Signaling	26	6.5E-4	4			8.9E-4	3		
IL-17 Signaling	72	8.8E-4	6	6.3E-3	4				
Unique to One Chemical									
p38 MAPK Signaling	94	1.8E-6	10						
NF-κB Signaling	139	6.2E-5	10						
Chemokine Signaling	71	8.2E-4	6						
Death Receptor Signaling	58	2.7E-4	6						
Acute Phase Response Signaling	166	2.7E-4	10						
TGF-β Signaling	78	1.1E-3	6						
GM-CSF Signaling	62	2.7E-3	5						
IL-8 Signaling	161	3.7E-3	8						
IL-3 Signaling	69	4.4E-3	5						
IL-15 Production	25	6.6E-3	3						
B-cell Activating Factor	39	3.1E-3	4						
Complement	33					1.8E-3	3		

^a Treatments compared to matched vehicle control, Criteria for inclusion: Illumina DIFF Score |≥20|, IPA pathway p≤0.01 AND minimum 3 genes altered. N=4 female B6C3F1 mice. All animals were treated for five consecutive days as described in Materials and Methods. DEX 5.0 mg/kg/day, DES 8.0 mg/kg/day, CPS 50.0 mg/kg/day, TCDD 3.0 μg/kg/day

Supplemental Material Tables 3A-3C Ingenuity Pathway Analysis Pathway and Function Analyses for DEX, DES, CPS, and TCDD
Table 3B Pathways and Functions Represented by Genes Differentially Expressed by Multiple Chemicals ^a

	<u>DEX/DES/CPS/TCDD</u>			<u>DEX/DES/CPS</u>			<u>DEX/DES/TCDD</u>		
	p-value	# Genes Up	# Genes Down	p-value	# Genes Up	# Genes Down	p-value	# Genes Up	# Genes Down
Total number of genes altered		11	6		13	49		16	0
<u>Pathway</u>									
Dendritic Cell Maturation	8.3E-4	3	0				9.9E-6	4	0
Natural Killer Cell Signaling	4.9E-6	3	1						
T-cell Receptor Signaling				2.2E-16	0	13			
CD28 Signaling in T-helper Cells				5.7E-14	0	12			
Primary Immunodeficiency Signaling				1.7E-11	0	8			
CTLA4 Signaling in Cytotoxic T Lymphocytes				9.4E-8	0	7			
Cytotoxic T-lymphocyte Mediated Apoptosis of Target Cells				2.1E-4	0	3			
Communication between Innate and Adaptive Immune Cells				2.8E-4	0	4			
B-cell Receptor Signaling				4.4E-4	0	5			
IL-2 Signaling				1.8E-3	0	3			
IL-15 Signaling				2.5E-3	1	3			
Leukocyte Extravasation Signaling				8.3E-3	0	4			
Antigen Presentation							1.5E-8	4	0
IL-4 Signaling							4.2E-7	4	0
<u>Function</u>									
<u>Apoptosis</u>									
Leukocyte	2.3E-5	4	0	2.1E-6	0	7			
Lymphocyte				1.5E-7	0	6			
T-cell				5.0E-5	0	4			
Phagocyte	1.7E-4	3	0						
<u>Antigen Presentation</u>									
	1.7E-3	3	1	3.5E-7	3	7			
<u>Immunological Disease</u>									
Autoimmune Disease				2.1E-6	0	8			
				4.8E-5	0	6			
<u>Inflammatory Disease</u>									
				3.1E-6	2	7			
<u>Immune Cell Trafficking</u>									
Migration				8.6E-6	1	4			
Activation				1.1E-5	1	4			
				2.5E-5	2	4			

Supplemental Material Tables 3A-3C Ingenuity Pathway Analysis Pathway and Function Analyses for DEX, DES, CPS, and TCDD
Table 3B Pathways and Functions Represented by Genes Differentially Expressed by Multiple Chemicals ^a

		<u>DEX/DES/CPS/TCDD</u>			<u>DEX/DES/CPS</u>			<u>DEX/DES/TCDD</u>		
		p-value	# Genes	# Genes	p-value	# Genes	# Genes	p-value	# Genes	# Genes
			Up	Down		Up	Down		Up	Down
Cell Movement	T-cell				5.9E-5	0	4			
	Leukocyte				5.6E-5	4	3			
	Neutrophil				1.3E-3	2	2			
Chemotaxis	Leukocyte				5.0E-4	3	2			
	Mononuclear				2.7E-3	2	1			
	Leukocyte									
Cell Mediated Immune Response										
Development	T-cell				3.18E-15	1	14	1.8E-3	3	0
Differentiation	T-cell				6.3E-9	0	8			
Proliferation					1.2E-7	0	4			
Inflammatory Response										
					3.8E-5	5	2			
Humoral Immune Response										
Quantity	B-cell				3.2E-3	1	2			

^a High dose treatments compared to matched vehicle control, N=4 female B6C3F1 mice. All animals were treated for five consecutive days as described in Materials and Methods. DEX 5.0 mg/kg/day, DES 8.0 mg/kg/day, CPS 50.0 mg/kg/day, TCDD 3.0 µg/kg/day
Criteria for inclusion: Illumina DIFF Score |≥20|, IPA pathway/function p≤0.01 AND minimum 3 genes altered
DEX/CPS/TCDD (6 genes) AND DES/CPS/TCDD (2 genes) did not alter any pathways or functions per the stated criteria.

Supplemental Material Tables 3A-3C Ingenuity Pathway Analysis Pathway and Function Analyses for DEX, DES, CPS, and TCDD
Table 3C Pathways and Functions Represented by Genes Differentially Expressed by a Single Chemical^a

	Unique to DEX			Unique to DES			Unique to TCDD		
	p-value	# Genes Up	# Genes Down	p-value	# Genes Up	# Genes Down	p-value	# Genes Up	# Genes Down
Total number of genes altered		50	12		8	8		10	0
Pathway									
Dendritic Cell Maturation	3.2E-7	7	1						
Crosstalk between Dendritic and Natural Killer Cells	1.6E-6	5	1						
P38 MAPK Signaling	4.6E-6	3	3						
Apoptosis	4.5E-5	3	2						
Death Receptor Signaling	1.5E-4	2	2						
IL-15 Signaling	1.8E-4	3	1						
Cytotoxic T-lymphocyte Mediated Apoptosis of Target Cells	2.4E-4	1	2						
Antigen Presentation	3.3E-4	3	0						
Chemokine Signaling	3.4E-4	4	0						
TGF-β Signaling	4.2E-4	3	1						
T-helper Cell Differentiation	6.8E-4	3	0						
IL-6 Signaling	7.0E-4	4	0						
IL-2 Signaling	2.0E-3	2	1						
IL-10 Signaling	2.7E-3	3	0						
NF-κB Signaling	4.1E-3	4	0						
B-cell Receptor Signaling	4.3E-3	3	1						
Communication between Innate and Adaptive Immune Cells	4.3E-3	3	0						
IL-17 Signaling	4.7E-3	3	0						
Acute Phase Response Signaling	7.6E-3	4	0						
Function									
Antigen Presentation									
Cell Type									
Antigen Presentation	1.3E-12	15	2	3.8E-4	3	0			
Inflammatory Response									
Quantity									
Macrophage	1.3E-12	10	1						
Phagocyte	6.0E-12	11	1						
Neutrophil	8.5E-8	6	1						
Inflammation	5.0E-8	7	1						
Phagocytosis	1.0E-4	3	1						
Apoptosis									
Apoptosis	7.4E-10	9	4	3.6E-4	2	2			
Leukocyte	1.1E-7	5	3						
Phagocyte	2.0E-6	4	2						
Neutrophil	7.4E-4	2	1						

Supplemental Material Tables 3A-3C Ingenuity Pathway Analysis Pathway and Function Analyses for DEX, DES, CPS, and TCDD
Table 3C Pathways and Functions Represented by Genes Differentially Expressed by a Single Chemical^a

		Unique to DEX			Unique to DES			Unique to TCDD		
		p-value	# Genes Up	# Genes Down	p-value	# Genes Up	# Genes Down	p-value	# Genes Up	# Genes Down
	T-cell	1.2E-3	1	2						
	Macrophage	1.7E-3	2	1				4.7E-6	3	0
Cell Growth and Proliferation										
Proliferation	Leukocyte	1.5E-6	4	3						
	Phagocyte	2.5E-6	2	2						
	Macrophage	7.6E-5	1	2						
	Lymphocyte	1.4E-4	2	3						
	B-cell	4.9E-4	1	2						
	T-cell	7.4E-3	1	2						
Growth	Mononuclear leukocyte	6.8E-4	3	0						
Inflammatory Disease		2.5E-10	12	1						
Immune Cell Trafficking										
Cell Movement	Leukocyte	4.8E-9	10	1						
	Phagocyte	2.3E-7	7	1	3.2E-4	2	1			
	Mononuclear leukocyte	5.2E-7	6	1						
	Neutrophil	5.6E-7	6	1						
	T-cell	1.4E-5	3	1						
Migration	Lymphocyte	4.2E-7	5	1						
	Leukocyte	1.4E-8	10	1	1.7E-3	2	1			
	Mononuclear leukocyte	4.6E-7	6	1						
	Phagocyte	3.6E-6	5	1						
	Neutrophil	3.2E-4	3	1						
	APC	1.1E-3	3	0						
Chemotaxis		2.2E-8	9	0						
Adhesion	Leukocyte	1.2E-7	7	0						
	Mononuclear leukocyte	3.9E-5	4	0						
Recruitment	Leukocyte	5.2E-7	7	0						
	Phagocyte	4.1E-6	6	0						
	Neutrophil	2.4E-5	5	0						
	Mononuclear Leukocyte	9.0E-5	3	0						

Supplemental Material Tables 3A-3C Ingenuity Pathway Analysis Pathway and Function Analyses for DEX, DES, CPS, and TCDD
Table 3C Pathways and Functions Represented by Genes Differentially Expressed by a Single Chemical^a

		Unique to DEX			Unique to DES			Unique to TCDD		
		p-value	# Genes Up	# Genes Down	p-value	# Genes Up	# Genes Down	p-value	# Genes Up	# Genes Down
Accumulation	Leukocyte	6.3E-7	5	2						
	Phagocyte	7.9E-7	4	2						
	T-cell	1.1E-4	2	1						
	Macrophage	5.3E-4	2	1						
	Neutrophil	9.9E-4	2	1						
Activation	Mononuclear leukocyte	1.3E-5	4	1						
	Leukocyte	2.2E-6	5	2						
	T-cell	1.4E-3	2	1						
Cell Mediated Immune Response										
Development	T-cell	2.1E-7	7	2						
Differentiation	T- helper cell	2.4E-3	2	1						
Humoral Immune Response										
Quantity	B-cell	1.3E-5	4	1						
Proliferation	B-cell	4.9E-4	1	2						
Immunological Disease										
	Autoimmune Disease	5.8E-4	5	0						
Hypersensitivity										
		3.2E-4	3	0						

^a High dose treatments compared to matched vehicle control, N=4 female B6C3F1 mice.
 All animals were treated for five consecutive days as described in Materials and Methods.
 DEX 5.0 mg/kg/day, DES 8.0 mg/kg/day, CPS 50.0 mg/kg/day, TCDD 3.0 µg/kg/day
 Criteria for inclusion: Illumina DIFF Score |≥20|, IPA pathway/function p≤0.01 AND minimum 3 genes altered
 Unique to CPS (2 genes) did not alter any pathways or functions per the stated criteria

Supplemental Material, Table 4
Ingenuity Pathway Analysis Function Comparison for DEX, DES, CPS and TCDD^a

Function	Cell Type	# Genes Altered			
		DEX	DES	CPS	TCDD
Cell Mediated Immunity		45	28	23	11
Development	General	35	22	20	10
	T-cell	35	21	20	10
	T-helper cell	5			
Differentiation	General	15	8	10	
	T-cell	15	8	10	
	T-helper cell	10			
Humoral Immune Response		24	16	12	8
Quantity	General	14	8	5	
	B-cells	14	8	5	
Apoptosis		40	28	22	16
	Leukocyte	26	17	14	11
	Mononuclear leukocyte	12	9		
	Lymphocyte	11	8	7	
	T-cell	9	6	5	
	Neutrophil	8	5		
	Macrophage	8	5		5
	Phagocyte	16	9		
Cell Growth and Proliferation		50	30	20	13
Proliferation	General	42	26	18	10
	Leukocyte	26	15	12	
	Lymphocyte	23	14	11	8
	T-cell	16	10	8	5
	B-cell	9	5		
Growth	General	12	8	7	
	Leukocyte	8	5	5	
	Mononuclear leukocyte	7			
	Lymphocyte	6			
	T-cell	4			
Antigen Presentation		48	30	24	16
Immune Cell Trafficking		53	33	26	20
Migration	General	27	16	11	9
	Leukocyte	27	16	11	9
	Mononuclear leukocyte	15		6	
	Lymphocyte	14	9	5	3
	T-cell	7	5		
	Neutrophil	8			5
	Phagocyte	10			
	Antigen Presenting Cell	5	5		
Cell Movement	General	25	15	11	7
	Leukocyte	25	15	11	
	Mononuclear leukocyte	12	7		
	Lymphocyte	7	5		
	T-cell	5			
	Neutrophil	15	9	7	
	Phagocyte	18	11		6
	Macrophage	6			
	Antigen Presenting Cell	8			

Supplemental Material, Table 4
Ingenuity Pathway Analysis Function Comparison for DEX, DES, CPS and TCDD^a

Function	Cell Type	# Genes Altered			
		DEX	DES	CPS	TCDD
Chemotaxis		19	11	8	5
Activation	General	18	11	9	
	Leukocyte	18	11	9	
	Mononuclear leukocyte	13	10	7	
	Lymphocyte				
	T-cell	10	8	6	
	Phagocyte	7	5	5	
Recruitment	Macrophage	5			
	General	15	6	5	
	Leukocyte	15	6	5	
	Mononuclear leukocyte	6			
	Neutrophil	9			
	Phagocyte	12	5		
Accumulation	Macrophage	5			
	General	15	6		8
	Leukocyte	15	6		8
	Mononuclear leukocyte	8			6
	Lymphocyte	6			
	T-cell	5			
	Neutrophil				
	Phagocyte	8			
Adhesion	Macrophage	5			
	General	12			
	Leukocyte	12			
	Mononuclear leukocyte	7			
Inflammatory Disease		38	19	14	10
Inflammatory Response		77	47	38	27
Quantity	General	24	9	8	11
	Neutrophil	11			
	Macrophage	17	6	5	6
	Phagocyte	22	7	8	9
Inflammation		18	10	7	5
Phagocytosis		10			
Immunological Disease		33	17	16	10
Autoimmune Disease		21	12	10	8
Infectious Disease		9			

^a High dose treatments compared to matched vehicle control, N=4 female B6C3F1 mice. All animals were treated for five consecutive days as described in Materials and Methods. DEX 5.0 mg/kg/day, DES 8.0 mg/kg/day, CPS 50.0 mg/kg/day, TCDD 3.0 µg/kg/day. Criteria for inclusion: Illumina DIFF Score |≥20|, IPA function/pathway p≤0.01 AND minimum 5 genes altered