

Supplementary Table S1: Atrazine and Cell Death

Symbol	Synonym(s)	Entrez Gene Name	Location	Family
AR	AIS, Andr, androgen receptor	androgen receptor	Nucleus	ligand-dependent nuclear receptor
atrazine	1,3,5-triazine-2,4-diamine		Other	chemical toxicant
beta-estradiol	(8R,9S,13S,14S,17S)-13-methyl-6,7,8,9,11,12,14,15,16,17-decahydrocyclopenta[a]phenanthrene-3,17-diol		Other	chemical - endogenous mammalian
CGB (includes others)	beta HCG5, CGB3, CGB5, CGB7, CGB8, chorionic gonadotropin	chorionic gonadotropin, beta polypeptide	Extracellular Space	other
CLEC11A	AW457320, C-type lectin domain family 11, member A, STEM CELL GROWTH FACTOR	C-type lectin domain family 11, member A	Extracellular Space	growth factor
CYP11A1	CHOLESTEROL SIDE-CHAIN CLEAVAGE ENZYME	cytochrome P450, family 11, subfamily A, polypeptide 1	Cytoplasm	enzyme
CYP19A1	Ar, ArKO, ARO, ARO1, Aromatase	cytochrome P450, family 19, subfamily A, polypeptide 1	Cytoplasm	enzyme
ESR1	AA420328, Alpha estrogen receptor,(α)	estrogen receptor 1	Nucleus	ligand-dependent nuclear receptor
estrogen	C18 steroids, oestrogen		Other	chemical drug
estrogen receptor	ER, ESR, ESR1/2, esr1/esr2		Nucleus	group
estrone	(8R,9S,13S,14S)-3-hydroxy-13-methyl-7,8,9,11,12,14,15,16-octahydro-6H-cyclopenta[a]phenanthren-17-one		Other	chemical - endogenous mammalian
G6PD	BOS 25472, G28A, G6PD1, G6PDX, Glucose-6-P Dehydrogenase	glucose-6-phosphate dehydrogenase	Cytoplasm	enzyme

GATA4	ASD2, GATA binding protein 4, TACHD, TOF, VSD1	GATA binding protein 4	Nucleus	transcription regulator
GHRHR	growth hormone releasing hormone receptor	growth hormone releasing hormone receptor	Plasma Membrane	G-protein coupled receptor
hormone	hormones, nonprotein hormone		Other	chemical drug
hydrogen peroxide	7722-84-1, H2O2, hydrogen dioxide, hydrogen peroxide, urea hydrogen peroxide		Other	chemical - endogenous mammalian
L-triiodothyronine	(2S)-2-amino-3-[4-(4-hydroxy-3-iodophenoxy)-3,5-diiodophenyl]propanoic acid		Other	chemical - endogenous mammalian
norepinephrine	norepinephrine		Other	chemical - endogenous mammalian
NR3C1	Glucocorticoid receptor α -2	nuclear receptor subfamily 3, group C, member 1 (glucocorticoid receptor)	Nucleus	ligand-dependent nuclear receptor
PTGS2	CYCLO-OXYGENASE 2	prostaglandin-endoperoxide synthase 2 (prostaglandin G/H synthase and cyclooxygenase)	Cytoplasm	enzyme
STAR	steroidogenic acute regulatory protein	steroidogenic acute regulatory protein	Cytoplasm	transporter
testosterone	testosterone		Other	chemical - endogenous mammalian

Supplementary Table S2: Atrazine and Organismal Injury

Symbol	Synonym(s)	Entrez Gene Name	Location	Family
AR	AIS, Andr, androgen receptor	androgen receptor	Nucleus	ligand-dependent nuclear receptor
atrazine	1,3,5-triazine-2,4-diamine		Other	chemical toxicant
beta-estradiol	(8R,9S,13S,14S,17S)-13-methyl-6,7,8,9,11,12,14,15,16,17-decahydrocyclopenta[a]phenanthrene-3,17-diol		Other	chemical - endogenous mammalian
CGB (includes others)	beta HCG5, CGB3, CGB5, CGB7, CGB8, chorionic gonadotropin	chorionic gonadotropin, beta polypeptide	Extracellular Space	other
CYP11A1	AW457320, C-type lectin domain family 11, member A, STEM CELL GROWTH FACTOR	cytochrome P450, family 11, subfamily A, polypeptide 1	Cytoplasm	enzyme
CYP19A1	Ar, ArKO, ARO, ARO1, Aromatase	cytochrome P450, family 19, subfamily A, polypeptide 1	Cytoplasm	enzyme
ESR1	AA420328, Alpha estrogen receptor,(α)	estrogen receptor 1	Nucleus	ligand-dependent nuclear receptor
estrogen	C18 steroids, oestrogen		Other	chemical drug
estrogen receptor	ER, ESR, ESR1/2, esr1/esr2		Nucleus	group
estrone	(8R,9S,13S,14S)-3-hydroxy-13-methyl-7,8,9,11,12,14,15,16-octahydro-6H-cyclopenta[a]phenanthren-17-one		Other	chemical - endogenous mammalian
G6PD	BOS 25472, G28A, G6PD1, G6PDX, Glucose-6-P Dehydrogenase	glucose-6-phosphate dehydrogenase	Cytoplasm	enzyme
GATA4	ASD2, GATA binding protein 4, TACHD, TOF, VSD1	GATA binding protein 4	Nucleus	transcription regulator

GHRHR	growth hormone releasing hormone receptor	growth hormone releasing hormone receptor	Plasma Membrane	G-protein coupled receptor
hormone	hormones, nonprotein hormone		Other	chemical drug
hydrogen peroxide	7722-84-1, H ₂ O ₂ , hydrogen dioxide, hydrogen peroxide, urea hydrogen peroxide		Other	chemical - endogenous mammalian
L-triiodothyronine	(2S)-2-amino-3-[4-(4-hydroxy-3-iodophenoxy)-3,5-diiodophenyl]propanoic acid		Other	chemical - endogenous mammalian
norepinephrine	norepinephrine		Other	chemical - endogenous mammalian
NR3C1	Glucocorticoid receptor α -2	nuclear receptor subfamily 3, group C, member 1 (glucocorticoid receptor)	Nucleus	ligand-dependent nuclear receptor
PTGS2	CYCLO-OXYGENASE 2	prostaglandin-endoperoxide synthase 2 (prostaglandin G/H synthase and cyclooxygenase)	Cytoplasm	enzyme
STAR	steroidogenic acute regulatory protein	steroidogenic acute regulatory protein	Cytoplasm	transporter
testosterone	testosterone		Other	chemical - endogenous mammalian

Supplementary Table S3: Atrazine and Survival

Symbol	Synonym(s)	Entrez Gene Name	Location	Family
AR	AIS, Andr, androgen receptor	androgen receptor	Nucleus	ligand-dependent nuclear receptor
atrazine	1,3,5-triazine-2,4-diamine		Other	chemical toxicant
CLEC11A	AW457320, C-type lectin domain family 11, member A, STEM CELL GROWTH FACTOR	C-type lectin domain family 11, member A	Extracellular Space	growth factor
ESR1	AA420328, Alpha estrogen receptor,(α)	estrogen receptor 1	Nucleus	ligand-dependent nuclear receptor
estrogen	C18 steroids, oestrogen		Other	chemical drug
estrogen receptor	ER, ESR, ESR1/2, esr1/esr2		Nucleus	group
GHRHR	growth hormone releasing hormone receptor	growth hormone releasing hormone receptor	Plasma Membrane	G-protein coupled receptor
hydrogen peroxide	7722-84-1, H2O2, hydrogen dioxide, hydrogen peroxide, urea hydrogen peroxide		Other	chemical - endogenous mammalian
L-triiodothyronine	(2S)-2-amino-3-[4-(4-hydroxy-3-iodophenoxy)-3,5-diiodophenyl]propanoic acid		Other	chemical - endogenous mammalian
NR3C1	Glucocorticoid receptor α -2	nuclear receptor subfamily 3, group C, member 1 (glucocorticoid receptor)	Nucleus	ligand-dependent nuclear receptor

Supplementary Table S4: Atrazine and Cancer

Symbol	Synonym(s)	Entrez Gene Name	Location	Family
AR	AIS, Andr, androgen receptor	androgen receptor	Nucleus	ligand-dependent nuclear receptor
atrazine	1,3,5-triazine-2,4-diamine		Other	chemical toxicant
beta-estradiol	(8R,9S,13S,14S,17S)-13-methyl-6,7,8,9,11,12,14,15,16,17-decahydrocyclopenta[a]phenanthrene-3,17-diol		Other	chemical - endogenous mammalian
CGB (includes others)	beta HCG5, CGB3, CGB5, CGB7, CGB8, chorionic gonadotropin	chorionic gonadotropin, beta polypeptide	Extracellular Space	other
CYP11A1	AW457320, C-type lectin domain family 11, member A, STEM CELL GROWTH FACTOR	cytochrome P450, family 11, subfamily A, polypeptide 1	Cytoplasm	enzyme
CYP19A1	Ar, ArKO, ARO, ARO1, Aromatase	cytochrome P450, family 19, subfamily A, polypeptide 1	Cytoplasm	enzyme
ESR1	AA420328, Alpha estrogen receptor,(α)	estrogen receptor 1	Nucleus	ligand-dependent nuclear receptor
estrogen	C18 steroids, oestrogen		Other	chemical drug
estrogen receptor	ER, ESR, ESR1/2, esr1/esr2		Nucleus	group
estrone	(8R,9S,13S,14S)-3-hydroxy-13-methyl-7,8,9,11,12,14,15,16-octahydro-6H-cyclopenta[a]phenanthren-17-one		Other	chemical - endogenous mammalian
G6PD	BOS 25472, G28A, G6PD1, G6PDX, Glucose-6-P Dehydrogenase	glucose-6-phosphate dehydrogenase	Cytoplasm	enzyme
GATA4	ASD2, GATA binding protein 4, TACHD, TOF, VSD1	GATA binding protein 4	Nucleus	transcription regulator

GHRHR	growth hormone releasing hormone receptor	growth hormone releasing hormone receptor	Plasma Membrane	G-protein coupled receptor
hormone	hormones, nonprotein hormone		Other	chemical drug
hydrogen peroxide	7722-84-1, H ₂ O ₂ , hydrogen dioxide, hydrogen peroxide, urea hydrogen peroxide		Other	chemical - endogenous mammalian
norepinephrine	norepinephrine		Other	chemical - endogenous mammalian
NR3C1	Glucocorticoid receptor α -2	nuclear receptor subfamily 3, group C, member 1 (glucocorticoid receptor)	Nucleus	ligand-dependent nuclear receptor
PTGS2	CYCLO-OXYGENASE 2	prostaglandin-endoperoxide synthase 2 (prostaglandin G/H synthase and cyclooxygenase)	Cytoplasm	enzyme
STAR	steroidogenic acute regulatory protein	steroidogenic acute regulatory protein	Cytoplasm	transporter
testosterone	testosterone		Other	chemical - endogenous mammalian

Supplementary Table S5: Chlorpyrifos and Organismal Injury

Symbol	Synonym(s)	Entrez Gene Name	Location	Family
5-hydroxytryptamine	3-(2-aminoethyl)-1H-indol-5-ol, 3-(2-aminoethyl)indol-5-ol, 5-HT, 50-67-9, C10H12N2O, indol-5-ol		Other	chemical-endogenous mammalian
ABCG2	ABC15, ABCP, AI428558, ATP-binding cassette, sub-family G (WHITE), member 2, ATP-binding cassette	ATP-binding cassette, sub-family G (WHITE), member 2 (Junior blood group)	Plasma Membrane	transporter
acetylcholine	(2-acetoxyethyl)trimethylammonium, 2-acetyloxyethyl(trimethyl)azanium, 2260-50-6, 51-84-3, 60-31-1		Other	chemical-endogenous mammalian
ACHE	Acchoease, ACEE, Acetylcholine esterase, acetylcholinesterase, acetylcholinesterase (Yt blood group)	acetylcholinesterase (Yt blood group)	Plasma Membrane	enzyme
bilirubin	21H-biline-8,12-dipropionic acid, 2,17-diethenyl-1,10,19,22,23,24-hexahydro-3,7,13,18-tetramethyl-1		Other	chemical-endogenous mammalian
CAT	2210418N07, ACATALASIA, Cas-1, Cat01, Catalase, Catalase1, Catl, CS1	catalase	Cytoplasm	enzyme
CHAT	B230380D24Rik, CHOACTASE, CHOLINE ACETYLTRANSFERASE, choline O-acetyltransferase	choline O-acetyltransferase	Nucleus	enzyme
chlorpyrifos	2-pyridinol, 3,5,6-trichloro-, O-ester with O,O-diethyl phosphorothioate, 2921-88-2, C9H11Cl3NO3PS		Other	chemical toxicant
choline	2-hydroxyethyl(trimethyl)azanium, 62-49-7, 67-48-1, 77-91-8, 87-67-2, C5H14NO+, choline bitartrate		Other	chemical-endogenous mammalian
corticosterone	11,12-dihydroxyprogesterone, 11beta,21-dihydroxy-4-pregnene-3,20-dione, 50-22-6		Other	chemical-endogenous mammalian

creatine	2-[carbamimidoyl(methyl)amino]acetic acid, 57-00-1, (alpha-methylguanido)acetic acid		Other	chemical-endogenous mammalian
CRH	CORTICOTROPIN-RELEASING HORMONE, Crf2, Crf4, CRF, CRH1, Crh-41, Gm1347	corticotropin releasing hormone	Extracellular Space	cytokine
D-glucose	(3R,4S,5S,6R)-6-(hydroxymethyl)oxane-2,3,4,5-tetrol, 50-99-7, biliary glucose, C6H12O6		Other	chemical-endogenous mammalian
GABA	4-aminobutanoic acid, 4-aminobutyrate, 4-aminobutyric acid, 56-12-2, butanoic acid, 4-amino-		Other	chemical-endogenous mammalian
GAL	GAL-GMAP, galanin, galanin/GMAP prepropeptide, GALN, GLNN, GMAP	galanin/GMAP prepropeptide	Extracellular Space	other
glutamine	2,5-diamino-5-oxopentanoic acid, 6899-04-3, C5H10N2O3, glutamine		Other	chemical-endogenous mammalian
glutathione	(2S)-2-amino-5-[[[(2R)-1-(carboxymethylamino)-1-oxo-3-sulfanylpropan-2-yl]amino]-5-oxopentanoic acid		Other	chemical-endogenous mammalian
GSR	AI325518, D8Ert238e, glutathione reductase, Gr-1, Gred, GRX, HEL-75	glutathione reductase	Cytoplasm	enzyme
HMOX1	bK286B10, D8Wsu38e, haemox, HEME OXYGENASE, heme oxygenase (decycling) 1	heme oxygenase (decycling) 1	Cytoplasm	enzyme
isoleucine	2-amino-3-methylpentanoic acid, 443-79-8, C6H13NO2, isoleucine		Other	chemical-endogenous mammalian
lactic acid	(±)-2-hydroxypropanoic acid, 113-21-3, 2-hydroxypropanoic acid, 50-21-5, 515-98-0, Amlactin		Other	chemical-endogenous mammalian

leucine	2-amino-4-methylpentanoic acid, C ₆ H ₁₃ NO ₂ , leucine		Other	chemical-endogenous mammalian
malondialdehyde	1,3-propanedialdehyde, 1,3-propanedione, 542-78-9, C ₃ H ₄ O ₂ , malonaldehyde, malonic dialdehyde		Other	chemical toxicant
nitric oxide	10102-43-9, Amidogen, oxo-, EDRF, inhaled nitric oxide, INOmax, Mononitrogen monoxide, nitric oxide		Other	chemical-endogenous mammalian
NPY	0710005A05Rik, LOC100912228, neuropeptide Y, NF-Y, NPY02, Preproneuropeptide y	neuropeptide Y	Extracellular Space	other
Sod	1.15.1.1, copper-zinc superoxide dismutase, Cu,Zn-SOD, Cu-Zn superoxide dismutase, cuprein, cytocuprein		Cytoplasm	group
succinic acid	1,2-ethanedicarboxylic acid, 1,4-butanedioic acid, 110-15-6, 56-14-4, amber acid, asuccin, butanedioate		Other	chemical-endogenous mammalian
taurine	107-35-7, 2-aminoethanesulfonic acid, C ₂ H ₇ NO ₃ S, ethanesulfonic acid, 2-amino-, L-aurine, O-Due, tauphon		Other	chemical-endogenous mammalian
testosterone	(8R,9S,10R,13S,14S,17S)-17-hydroxy-10,13-dimethyl-1,2,6,7,8,9,11,12,14,15,16		Other	chemical-endogenous mammalian
TH	DYT14, DYT5b, The, TYH, TYROSINE 3-MONOOXYGENASE, tyrosine hydroxylase	tyrosine hydroxylase	Cytoplasm	enzyme

Supplementary Table S6: Chloropyrifos and Cell Death and Survival

Symbol	Synonym(s)	Entrez Gene Name	Location	Family
3-hydroxybutyric acid	3-hydroxybutanoic acid, 3-hydroxybutylate, 3-hydroxybutyrate, 300-85-6, 625-71-8, beta hydroxybutyrate		Other	chemical-endogenous mammalian
5-hydroxytryptamine	3-(2-aminoethyl)-1H-indol-5-ol, 3-(2-aminoethyl)indol-5-ol, 5-HT, 50-67-9, C10H12N2O, indol-5-ol		Other	chemical-endogenous mammalian
ABCG2	ABC15, ABCP, AI428558, ATP-binding cassette, sub-family G (WHITE), member 2, ATP-binding cassette	ATP-binding cassette, sub-family G (WHITE), member 2 (Junior blood group)	Plasma Membrane	transporter
acetone	2-Propanone, 67-64-1, C3H6O, dimethyl ketone, dimethylformaldehyde, dimethylketal, propan-2-one		Other	chemical-endogenous non-mammalian
acetylcholine	(2-acetoxyethyl)trimethylammonium, 2-acetyloxyethyl(trimethyl)azanium, 2260-50-6, 51-84-3, 60-31-1		Other	chemical-endogenous mammalian
ACHE	Acchoease, ACEE, Acetylcholine esterase, acetylcholinesterase, acetylcholinesterase (Yt blood group)	acetylcholinesterase (Yt blood group)	Plasma Membrane	enzyme
alanine	2-aminopropanoic acid, 2-aminopropionic acid, C3H7NO2		Other	chemical-endogenous mammalian
bilirubin	21H-biline-8,12-dipropanoic acid, 2,17-diethenyl-1,10,19,22,23,24-hexahydro-3,7,13,18-tetramethyl-1		Other	chemical-endogenous mammalian
CAT	2210418N07, ACATALASIA, Cas-1, Cat01, Catalase1, Catalase, Catl, CS1	catalase	Cytoplasm	enzyme
CCK	CCK8, CHOLECYSTOKININ, Cholecystokinin 8	cholecystokinin	Extracellular Space	other

CHAT	B230380D24Rik, CHOACTASE, CHOLINE ACETYLTRANSFERASE, choline O-acetyltransferase	choline O-acetyltransferase	Nucleus	enzyme
chlorpyrifos	2-pyridinol, 3,5,6-trichloro-, O-ester with O,O-diethyl phosphorothioate, 2921-88-2, C ₉ H ₁₁ Cl ₃ NO ₃ PS		Other	chemical toxicant
choline	2-hydroxyethyl(trimethyl)azanium, 62-49-7, 67-48-1, 77-91-8, 87-67-2, C ₅ H ₁₄ NO ⁺ , choline bitartrate		Other	chemical-endogenous mammalian
corticosterone	(8S,9S,10R,11S,13S,14S,17S)-11-hydroxy-17-(2-hydroxyacetyl)-10,13-dimethyl-1,2,6,7,8,9,11,12,14,15,16		Other	chemical-endogenous mammalian
creatine	2-[carbamimidoyl(methyl)amino]acetic acid, 57-00-1, (alpha-methylguanido)acetic acid		Other	chemical-endogenous mammalian
CRH	CORTICOTROPIN-RELEASING HORMONE, Crf2, Crf4, CRF, CRH1, Crh-41, Gm1347	corticotropin releasing hormone	Extracellular Space	cytokine
D-glucose	(3R,4S,5S,6R)-6-(hydroxymethyl)oxane-2,3,4,5-tetrol, 50-99-7, biliary glucose, C ₆ H ₁₂ O ₆ , D-glucose		Other	chemical-endogenous mammalian
GABA	4-aminobutanoic acid, 4-aminobutyrate, 4-aminobutyric acid, 56-12-2, butanoic acid, 4-amino-, C ₄ H ₉ NO ₂		Other	chemical-endogenous mammalian
GAL	GAL-GMAP, galanin, galanin/GMAP prepropeptide, GALN, GLNN, GMAP	galanin/GMAP prepropeptide	Extracellular Space	other
glutamine	2,5-diamino-5-oxopentanoic acid, 6899-04-3, C ₅ H ₁₀ N ₂ O ₃ , glutamine		Other	chemical-endogenous mammalian
glutathione	(2S)-2-amino-5-[[[(2R)-1-(carboxymethylamino)-1-oxo-3-sulfanylpropan-2-yl]amino]-5-oxopentanoic acid		Other	chemical-endogenous mammalian

glycogen	(2S,3R,4S,5S,6R)-2- [[(2R,3S,4R,5R,6R)-4,5-dihydroxy-3- [(2R,3R,4S,5S,6R)-3		Other	chemical- endogenous mammalian
GSR	AI325518, D8ErtD238e, glutathione reductase, Gr-1, Gred, GRX, HEL-75	glutathione reductase	Cytoplasm	enzyme
HMOX1	bK286B10, D8Wsu38e, haemox, HEME OXYGENASE, heme oxygenase (decycling) 1	heme oxygenase (decycling) 1	Cytoplasm	enzyme
isoleucine	2-amino-3-methylpentanoic acid, 443- 79-8, C6H13NO2, isoleucine		Other	chemical- endogenous mammalian
L-aspartic acid	(2S)-2-aminobutanedioic acid, (S)- aminobutanedioic acid, 10139-86-3		Other	chemical- endogenous mammalian
lactic acid	(±)-2-hydroxypropanoic acid, 113-21-3, 2-hydroxypropanoic acid, 50-21-5, 515- 98-0, Amlactin		Other	chemical- endogenous mammalian
leucine	2-amino-4-methylpentanoic acid, C6H13NO2, leucine		Other	chemical- endogenous mammalian
malondialdehyde	1,3-propanedialdehyde, 1,3- propanedione, 542-78-9, C3H4O2, malonaldehyde, malonic dialdehyde		Other	chemical toxicant
nitric oxide	10102-43-9, Amidogen, oxo-, EDRF, inhaled nitric oxide, INOmax, Mononitrogen monoxide, nitric oxide		Other	chemical- endogenous mammalian
NPY	0710005A05Rik, LOC100912228, neuropeptide Y, NF-Y, NPY02, Preproneuropeptide y	neuropeptide Y	Extracellular Space	other
NTS	5033428E16RIK, Neuromedin N, neurotensin, NmN, NMN-125, NN, NT, NT/N, NTS1	neurotensin	Extracellular Space	other

pyruvic acid	127-17-3, 1892-67-7, 2-oxopropanoate, 2-oxopropanoic acid, 57-60-3, C3H4O3, propanoic acid, 2-oxo-		Other	chemical- endogenous mammalian
Sod	1.15.1.1, copper-zinc superoxide dismutase, Cu,Zn-SOD, Cu-Zn superoxide dismutase, cuprein, cytocuprein		Cytoplasm	group
succinic acid	1,2-ethanedicarboxylic acid, 1,4-butanedioic acid, 110-15-6, 56-14-4, amber acid, asuccin, butanedioate		Other	chemical- endogenous mammalian
taurine	107-35-7, 2-aminoethanesulfonic acid, C2H7NO3S, ethanesulfonic acid, 2-amino-, L-aurine, O-Due, tauphon		Other	chemical- endogenous mammalian
testosterone	4-androsten-17beta-ol-3-one, 8 isotestosterone, 17-beta-hydroxy-8 alpha-4-androsten-3-one		Other	chemical- endogenous mammalian

Supplementary Table S7: Chlorpyrifos and Cancer

Symbol	Synonym(s)	Entrez Gene Name	Location	Family
CHAT	B230380D24Rik, CHOACTASE, CHOLINE ACETYLTRANSFERASE, choline O-acetyltransferase, CMS1A2, CMS1A	choline O-acetyltransferase	Nucleus	enzyme
chlorpyrifos	2-pyridinol, 3,5,6-trichloro-, O-ester with O,O-diethyl phosphorothioate, 2921-88-2, C ₉ H ₁₁ Cl ₃ NO ₃ PS, diethoxy-sulfanylidene-(3,5,6-trichloropyridin-2-yl)oxy- λ^5 -phosphane, phosphorothioic acid, O,O-diethyl O-(3,5,6-trichloro-2-pyridinyl) ester, trichlorpyrphos		Other	chemical toxicant
D-glucose	50-99-7, (3R,4S,5S,6R)-6-(hydroxymethyl)oxane-2,3,4,5-tetrol, biliary glucose, C ₆ H ₁₂ O ₆ , D-glucose, dextrose, glucose, sugar		Other	chemical - endogenous mammalian
GABA	4-aminobutanoic acid, 4-aminobutyrate, 4-aminobutyric acid, 56-12-2, butanoic acid, 4-amino-, C ₄ H ₉ NO ₂ , gamma-amino-N-butyric acid, gamma-aminobutyric acid, γ -amino-N-butyric acid, γ -aminobutyric acid		Other	chemical - endogenous mammalian
glutamine	2,5-diamino-5-oxopentanoic acid, 6899-04-3, C ₅ H ₁₀ N ₂ O ₃ , glutamine		Other	chemical - endogenous mammalian
glutathione	70-18-8, (2S)-2-amino-5-[[[(2R)-1-(carboxymethylamino)-1-oxo-3-sulfanylpropan-2-yl]amino]-5-oxopentanoic acid, C ₁₀ H ₁₇ N ₃ O ₆ S, gamma L glutamyl L cysteinylglycine, gamma L-Glu L-Cys Gly, gamma-Glu-Cys-Gly, gamma-L-glutamylcysteinylglycine, glutathione-reduced, glycine, N-(N-L-gamma-glutamyl-L-cysteinyl)-, glycine, N-(N-L- γ -glutamyl-L-cysteinyl)-, GSH, reduced glutathione, γ L glutamyl L cysteinylglycine, γ L-Glu L-Cys Gly, γ -Glu-Cys-Gly, γ -L-glutamylcysteinylglycine		Other	chemical - endogenous mammalian
GSR	AI325518, D8Ertd238e, glutathione reductase, Gr-1, Gred, GRX, HEL-75	glutathione reductase	Cytoplasm	enzyme
HMOX1	bK286B10, CTA-286B10.6, D8Wsu38e, haemox, HEME OXYGENASE, Heme oxygenase 1, heme oxygenase (decycling) 1,	heme oxygenase (decycling) 1	Cytoplasm	enzyme

	HEME OXYGENASE (DECYCLIZING) 1, Hemox, Heox, HEOXG, Hmox, HMOX1D, HO-1, HSP32			
isoleucine	2-amino-3-methylpentanoic acid, 443-79-8, C ₆ H ₁₃ NO ₂ , isoleucine		Other	chemical - endogenous mammalian
leucine	2-amino-4-methylpentanoic acid, C ₆ H ₁₃ NO ₂ , leucine		Other	chemical - endogenous mammalian
NPY	0710005A05Rik, LOC100912228, neuropeptide Y, NF-Y, NPY02, Preproneuropeptide y, pro-neuropeptide Y-like, PYY4, RATNPY02, RATNPY	neuropeptide Y	Extracellular Space	other
succinic acid	1,2-ethanedicarboxylic acid, 1,4-butanedioic acid, 56-14-4, 110-15-6, amber acid, asuccin, butanedioate, butanedioic acid, C ₄ H ₆ O ₄ , ethylenesuccinic acid, katasuccin, potassium succinate, succinate, wormwood acid		Other	chemical - endogenous mammalian

Supplementary Table S8: Chlorpyrifos and Behavior

Symbol	Synonym(s)	Entrez Gene Name	Location	Family
5-hydroxytryptamine	3-(2-aminoethyl)-1H-indol-5-ol, 3-(2-aminoethyl)indol-5-ol, 5-HT, 50-67-9, C10H12N2O		Other	chemical-endogenous mammalian
acetone	2-Propanone, 67-64-1, C3H6O, dimethyl ketone, dimethylformaldehyde, dimethylketal, propan-2-one		Other	chemical-endogenous non-mammalian
acetylcholine	(2-acetoxyethyl)trimethylammonium, 2-acetyloxyethyl(trimethyl)azanium, 2260-50-6, 51-84-3, 60-31-1		Other	chemical-endogenous mammalian
ACHE	Acchoease, ACEE, Acetylcholine esterase, acetylcholinesterase, acetylcholinesterase (Yt blood group)	acetylcholinesterase (Yt blood group)	Plasma Membrane	enzyme
CCK	CCK8, CHOLECYSTOKININ, Cholecystokinin 8	cholecystokinin	Extracellular Space	other
CHAT	B230380D24Rik, CHOACTASE, CHOLINE ACETYLTRANSFERASE, choline O-acetyltransferase, CMS1A	choline O-acetyltransferase	Nucleus	enzyme
chlorpyrifos	2-pyridinol, 3,5,6-trichloro-, O-ester with O,O-diethyl phosphorothioate, 2921-88-2, C9H11Cl3NO3PS		Other	chemical toxicant
corticosterone	11,12-dihydroxyprogesterone, 11beta,21-dihydroxy-4-pregnene-3,20-dione, 50-22-6		Other	chemical-endogenous mammalian
creatine	2-[carbamimidoyl(methyl)amino]acetic acid, 57-00-1, (alpha-methylguanido)acetic acid		Other	chemical-endogenous mammalian
CRH	CORTICOTROPIN-RELEASING HORMONE, Crf2, Crf4, CRF, CRH1, Crh-41, Gm1347	corticotropin releasing hormone	Extracellular Space	cytokine

D-glucose	(3R,4S,5S,6R)-6-(hydroxymethyl)oxane-2,3,4,5-tetrol, 50-99-7, biliary glucose, C ₆ H ₁₂ O ₆ , D-glucose		Other	chemical-endogenous mammalian
GABA	4-aminobutanoic acid, 4-aminobutyrate, 4-aminobutyric acid, 56-12-2, butanoic acid, 4-amino-		Other	chemical-endogenous mammalian
GAL	GAL-GMAP, galanin, galanin/GMAP prepropeptide, GALN, GLNN, GMAP	galanin/GMAP prepropeptide	Extracellular Space	other
HMOX1	bK286B10, D8Wsu38e, haemox, HEME OXYGENASE, Heme oxygenase 1, heme oxygenase (decycling) 1	heme oxygenase (decycling) 1	Cytoplasm	enzyme
lactic acid	2-hydroxypropanoic acid, 50-21-5, 113-21-3, 515-98-0, (±)-2-hydroxypropanoic acid, Amlactin		Other	chemical-endogenous mammalian
NPY	0710005A05Rik, LOC100912228, neuropeptide Y, NF-Y, NPY02, Preproneuropeptide y	neuropeptide Y	Extracellular Space	other
NTS	5033428E16RIK, Neuromedin N, neurotensin, NmN, NMN-125, NN, NT, NT/N, NTS1	neurotensin	Extracellular Space	other
taurine	107-35-7, 2-aminoethanesulfonic acid, C ₂ H ₇ NO ₃ S, ethanesulfonic acid, 2-amino-, L-aurine, O-Due, tauphon		Other	chemical-endogenous mammalian
testosterone	(8R,9S,10R,13S,14S,17S)-17-hydroxy-10,13-dimethyl-1,2,6,7,8,9,11,12,14,15,16		Other	chemical-endogenous mammalian
TH	DYT14, DYT5b, The, TYH, TYROSINE 3-MONOOXYGENASE, tyrosine hydroxylase	tyrosine hydroxylase	Cytoplasm	enzyme

Supplementary Table S9: Endosulfan

Symbol	Synonym(s)	Entrez Gene Name	Location	Family
ascorbic acid	(2R)-2-[(1S)-1,2-dihydroxyethyl]-3,4-dihydroxy-2H-furan-5-one, 129940-97-2, 134-03-2, 14536-17-5, 154170-90-8, 259133-78-3, 30208-61-8, 50-81-7, 50976-75-5, 53262-66-1, 56172-55-5, 56533-05-2, 57304-74-2, 57606-40-3, 623158-95-2, 882690-91-7, 884381-69-5, 885512-24-3, 88845-26-5, 89924-69-6, AA, Ascor L 500, ascorbate, ascorbic acid, monosodium salt, C ₆ H ₈ O ₆ , Cee-500, Cenolate, hybrin, L-ascorbate, L-ascorbic acid, magnesium ascorbicum, magnorbin, Mega-C/A Plus, sodium ascorbate, vitamin C		Other	chemical - endogenous mammalian
Ca ²⁺	14127-61-8, Ca ²⁺ , calcium, calcium cation, calcium citrate, calcium ion, calcium ions, calcium(2+), calcium, ion (Ca ²⁺), Citracal, tricalcium dicitrate		Other	chemical - endogenous mammalian
endosulfan	1,2,3,4,7,7-hexachlorobicyclo(2.2.1)hepten-5,6-bioxymethylenesulfite, 115-29-7, 5-norbornene-2,3-dimethanol, 1,4,5,6,7,7-hexachloro-, cyclic sulfite, 5-norbornene-2,3-dimethanol, 1,4,5,6,7,7-hexachloro-, cyclic sulphite, 6,9-methano-2,4,3-benzodioxathiepin, 6,7,8,9,10,10-hexachloro-1,5,5a,6,9,9a-hexahydro-, 3-oxide, benzoepin, C ₉ H ₆ Cl ₆ O ₃ S, crisulfan		Other	chemical toxicant
ESR1	Alpha estrogen receptor, ER66, ER, Er alpha (46 kDa isoform), Er α (46 kDa isoform), ER-alpha, ER-α, ERa, ESR, ESRA, Estr, Estra, estrogen receptor 1, estrogen receptor 1 (alpha), estrogen receptor 1 (α), Estrogen receptor α, ESTRR, NR3A1, RNESTROR, TERP-1, α estrogen receptor	estrogen receptor 1	Nucleus	ligand-dependent nuclear receptor
ESR2	beta ESTROGEN receptor, ER-BETA, ER-β, Erb, ERB2, ER[b], ESR-BETA, ESR-β, ESRB, ESTRB, estrogen receptor 2 (beta), estrogen receptor 2 (ER beta), estrogen receptor 2 (ER β), estrogen receptor 2 (β), Estrogen receptor β, NR3A2, β ESTROGEN receptor	estrogen receptor 2 (ER beta)	Nucleus	ligand-dependent nuclear receptor
JUN	Activator protein 1, AP-1, API-1, c-Fos, c-Jun, jun proto-oncogene, Junc, LOC100288387, LOC100291417,	jun proto-oncogene	Nucleus	transcription regulator

	LOC100293034, v-Jun, V-jun Avian Sarcoma Virus 17 Oncogene Homolog, V-jun Sarcoma Virus 17 Oncogene Homolog			
NOS1	2310005C01RIK, bNOS, IHPS1, iNOS, N-NOS, NADPH-d/NOS1, NC-NOS, Neuronal no synthase, nitric oxide synthase 1, nitric oxide synthase 1, neuronal, Nitric oxide synthetase, nNOS-2, NO, NOS, NOS-I	nitric oxide synthase 1	Cytoplasm	enzyme
NOS2	CALCIUM-INDEPENDENT NOS, HEP-NOS, Hepatocyte NOS, Inducible NOS, INOS, LOC497963, MAC-NOS, nitric oxide synthase 2, nitric oxide synthase 2, inducible, NOS, NOS-II, NOS2A, similar to Nitric oxide synthase, inducible (NOS type II) (Inducible NO synthase) (Inducible NOS) (iNOS)	nitric oxide synthase 2	Cytoplasm	enzyme
phospholipid	membrane lipid, phospholipids, PL		Other	chemical - endogenous mammalian
PRL	AV290867, Dlt, GHA1, Prl1a1, PRLB, PRLSD1, Prol, prolactin, RATPRLSD1, RNPROL	prolactin	Extracellular Space	cytokine
reactive oxygen species	oxygen and reactive oxygen species, reactive oxygen metabolites, ROI, ROS		Other	chemical toxicant

Supplementary Table S10: Nonyl Phenol and Cell Death

Symbol	Synonym(s)	Entrez Gene Name	Location	Family
ADIPOQ	ACDC, ACRP30, adipo, Adipocyte complement related protein of 30 kda, ADIPOD, ADIPONECTIN	adiponectin, C1Q and collagen domain containing	Extracellular Space	other
Akt	AKT1/2/3, B/Akt, Pkb, RAC-PK		Cytoplasm	group
aldosterone	(11beta)-11,21-dihydroxy-3,20-dioxopregn-4-en-18-al		Other	chemical - endogenous mammalian
APOB	Aa1064, Ac1-060, AI315052, APOB-29, APOLIPOPROTEIN B, FLDB, LDLCQ4	apolipoprotein B	Extracellular Space	transporter
ATP6AP1	16A, AC45, AI316502, ATP6IP1, ATP6S1, ATPase, H ⁺ transporting, lysosomal accessory protein 1	ATPase, H ⁺ transporting, lysosomal accessory protein 1	Cytoplasm	transporter
CCL2	Ccl12, chemokine (C-C motif) ligand 2, chemokine (C-C motif) ligand 12	chemokine (C-C motif) ligand 2	Extracellular Space	cytokine
corticosterone	(8S,9S,10R,11S,13S,14S,17S)-11-hydroxy-17-(2-hydroxyacetyl)-10,13-dimethyl-1		Other	chemical - endogenous mammalian
CXCL10	C7, chemokine (C-X-C motif) ligand 10, CRG-2, gamma-IFN INDUCIBLE EARLY RESPONSE	chemokine (C-X-C motif) ligand 10	Extracellular Space	cytokine
EREG	Epiregulin, EPR, ER	epiregulin	Extracellular Space	growth factor
ESR1	Alpha estrogen receptor, ER, Er alpha (46 kDa isoform), Er α (46 kDa isoform), ER-alpha	estrogen receptor 1	Nucleus	ligand-dependent nuclear receptor
ESR2	beta ESTROGEN receptor, ER-BETA, ER- β , ER[b], ERB2, Erb, ESR-BETA, ESR- β , ESRB, ESTRB	estrogen receptor 2 (ER beta)	Nucleus	ligand-dependent nuclear receptor

FAS	AI196731, ALPS1A, APO-1, APT1, CD95, CD95 receptor, CD95L	Fas cell surface death receptor	Plasma Membrane	transmembrane receptor
FASLG	ALPS1B, APT1LG1, APTL, CD178, CD95-L, Fas ligand, Fas ligand (TNF superfamily, member 6), FASL	Fas ligand (TNF superfamily, member 6)	Extracellular Space	cytokine
GHRH	GHRF, GRF, Grh, Growth hormone releasing hormone, INN	growth hormone releasing hormone	Extracellular Space	other
Gzmc	AI323531, CCP2, Ctla-5, granzyme C, Grz c, LOC691695, Protease4, Rnpk-4, similar to granzyme C	granzyme C	Cytoplasm	peptidase
HSPA1A/HSPA1B	HEAT SHOCK 70-KDA, heat shock 70kD protein 1A, heat shock 70kD protein 1B (mapped)	heat shock 70kDa protein 1A	Cytoplasm	enzyme
hydrogen peroxide	7722-84-1, H2O2, hydrogen dioxide, hydrogen peroxide, urea hydrogen peroxide		Other	chemical - endogenous mammalian
IKBKB	AI132552, AIM-1, I kappa b beta, i κ b kinase, I κ b β, Ikb Kinase Beta, Ikb Kinase β, IKK-2, IKK-beta	inhibitor of kappa light polypeptide gene enhancer in B-cells, kinase beta	Cytoplasm	kinase
IL10	CSIF, GVHDS, IL10A, IL10X, interleukin 10, TGIF	interleukin 10	Extracellular Space	cytokine
Insulin	Ins		Extracellular Space	group
Jnk	JNK 54/46, Jnk p56, JUN KINASE, p40, p47, Sapk/Jnk		Cytoplasm	group
L-triiodothyronine	3,3',5-triiodo-L-thyronine, 3,3',5-triiodo-L-thyronine sodium salt, 3,5,3'-triiodo-L-thyronine, 55-06-1		Other	chemical - endogenous mammalian
LBP	BPIFD2, Lipopolysaccharide binding, lipopolysaccharide binding protein, Ly88	lipopolysaccharide binding protein	Plasma Membrane	transporter
LCP2	AI323664, BB161688, Lymphocyte cytosolic protein 2, lymphocyte cytosolic protein 2	lymphocyte cytosolic protein 2 (SH2 domain containing leukocyte protein of 76kDa)	Cytoplasm	other

Ldha/RGD1562690	I lactate dehydrogenase (m chain), Lactate dehydrogenase 5, lactate dehydrogenase 1 A chain	lactate dehydrogenase A	Cytoplasm	enzyme
Mapk	Map Kinase, NGF/EGF DEPENDENT KINASE		Cytoplasm	group
MAPK1	9030612K14Rik, AA407128, AU018647, C78273, ERK, ERK-2, ERK42, ERT1, Mapk p42	mitogen-activated protein kinase 1	Cytoplasm	kinase
Mcpt1	AV080368, mast cell protease 1, mast cell protease 1-like 3, mast cell protease 2, Mcp-1	mast cell protease 1	Other	peptidase
NCOA1	bHLHe42, bHLHe74, F-SRC-1, KAT13A, NCOA, nuclear receptor coactivator 1, RIP160, SRC-1	nuclear receptor coactivator 1	Nucleus	transcription regulator
nonylphenol	1300-16-9, 2,6-dimethyl-4-heptylphenol, (O and P), 25154-52-3, 27936-43-2, 28987-17-9, 31291-42-6		Other	chemical toxicant
NR1I2	BXR, mPXR, nuclear receptor subfamily 1, group I, member 2, ONR1, PAR1, PAR2, PAR, PARq, PRR	nuclear receptor subfamily 1, group I, member 2	Nucleus	ligand-dependent nuclear receptor
NT5E	2210401F01Rik, 5' NUCLEOTIDASE, 5' nucleotidase, ecto, 5'-nucleotidase, ecto (CD73), 5'nt, AI447961	5'-nucleotidase, ecto (CD73)	Plasma Membrane	phosphatase
pregnenolone	1-[(3S,8S,9S,10R,13R,14S,17S)-3-hydroxy-10,13-dimethyl-2,3,4,7,8,9,11,12,14,15,16		Other	chemical - endogenous mammalian
PTGS2	COX-2, CYCLO-OXYGENASE 2, GRIPGHS, hCox-2, INDUCIBLE CYCLOOXYGENASE	prostaglandin-endoperoxide synthase 2 (prostaglandin G/H synthase and cyclooxygenase)	Cytoplasm	enzyme
S100A6	2A9, 5B10, CABP, CACY, CALCYCLIN,	S100 calcium binding protein A6	Cytoplasm	transporter

SLC22A6	HOAT1, mOat1, NKT, OAT1, Orct11, PAHT, ROAT1, solute carrier family 22 (organic anion transporter)	solute carrier family 22 (organic anion transporter), member 6	Plasma Membrane	transporter
Sod	1.15.1.1, copper-zinc superoxide dismutase, Cu,Zn-SOD, Cu-Zn superoxide dismutase, cuprein, cytocuprein		Cytoplasm	group
STK17B	3110009A03Rik, AI120141, DRAK2, serine/threonine kinase 17b	serine/threonine kinase 17b	Nucleus	kinase
testosterone	(8R,9S,10R,13S,14S,17S)-17-hydroxy-10,13-dimethyl-1,2,6,7,8,9,11,12,14,15,16		Other	chemical - endogenous mammalian

Supplementary Table S11: Nonyl Phenol and Organismal Injury

Symbol	Synonym(s)	Entrez Gene Name	Location	Family
ADIPOQ	ACDC, ACRP30, adipo, Adipocyte complement related protein of 30 kda, ADIPOD, ADIPONECTIN	adiponectin, C1Q and collagen domain containing	Extracellular Space	other
Akt	AKT1/2/3, B/Akt, Pkb, RAC-PK		Cytoplasm	group
ALAS1	5'-aminolevulinate synthase 1, ALAS, ALAS-H, ALAS-N, ALAS3, aminolevulinic acid synthase 1	5'-aminolevulinate synthase 1	Cytoplasm	enzyme
ALDH5A1	6330403E24RIK, Ahd-1, aldehyde dehydrogenase 5 family, member A1, aldehyde dehydrogenase family 5	aldehyde dehydrogenase 5 family, member A1	Cytoplasm	enzyme
aldosterone	(11beta)-11,21-dihydroxy-3,20-dioxopregn-4-en-18-al		Other	chemical - endogenous mammalian
APOB	Aa1064, Ac1-060, AI315052, APOB-29, APOLIPOPROTEIN B, FLDB, LDLQC4	apolipoprotein B	Extracellular Space	transporter
ATP6AP1	16A, AC45, AI316502, ATP6IP1, ATP6S1, ATPase, H ⁺ transporting, lysosomal accessory protein 1	ATPase, H ⁺ transporting, lysosomal accessory protein 1	Cytoplasm	transporter
CCL2	Ccl12, chemokine (C-C motif) ligand 12, chemokine (C-C motif) ligand 2	chemokine (C-C motif) ligand 2	Extracellular Space	cytokine
corticosterone	(8S,9S,10R,11S,13S,14S,17S)-11-hydroxy-17-(2-hydroxyacetyl)-10,13-dimethyl-1,2,6,7,8,9,11,12,14,15,16		Other	chemical - endogenous mammalian
CXCL10	C7, chemokine (C-X-C motif) ligand 10, CRG-2, gamma-IFN INDUCIBLE EARLY RESPONSE, gIP-10, IFI10	chemokine (C-X-C motif) ligand 10	Extracellular Space	cytokine
CYP17A1	17 alpha-hydroxylase, 17 α -hydroxylase, C17,20 Lyase, CPT7, CYP17, CYPXVII, cytochrome P450	cytochrome P450, family 17, subfamily A, polypeptide 1	Cytoplasm	enzyme

CYP3A5	AI256190, cDEX, CP35, CYP, Cyp3a, Cyp3a1, Cyp3a11, Cyp3a16, Cyp3a2, Cyp3a23, Cyp3a23/3a1	cytochrome P450, family 3, subfamily A, polypeptide 5	Cytoplasm	enzyme
EPHA8	AW047546, EEK, EK3, EPH receptor A8, HEK3, LOC60589, mKIAA1459	EPH receptor A8	Plasma Membrane	kinase
EREG	Epiregulin, EPR, ER	epiregulin	Extracellular Space	growth factor
ESR1	Alpha estrogen receptor, ER66, ER, Er alpha (46 kDa isoform), Er α (46 kDa isoform), ER-alpha, ER- α	estrogen receptor 1	Nucleus	ligand-dependent nuclear receptor
ESR2	beta ESTROGEN receptor, ER-BETA, ER- β , ER[b], ERB2, Erb, ESR-BETA, ESR- β , ESRB, ESTRB	estrogen receptor 2 (ER beta)	Nucleus	ligand-dependent nuclear receptor
FAS	AI196731, ALPS1A, APO-1, APT1, CD95, CD95 receptor, CD95L, FAS1	Fas cell surface death receptor	Plasma Membrane	transmembrane receptor
FASLG	ALPS1B, APT1LG1, APTL, CD178, CD95-L, Fas ligand, Fas ligand (TNF superfamily, member 6)	Fas ligand (TNF superfamily, member 6)	Extracellular Space	cytokine
GHRH	GHRF, GRF, Grh, Growth hormone releasing hormone, INN	growth hormone releasing hormone	Extracellular Space	other
HSPA1A/HSPA1B	HEAT SHOCK 70-KDA, heat shock 70kD protein 1A	heat shock 70kDa protein 1A	Cytoplasm	enzyme
hydrogen peroxide	7722-84-1, H2O2, hydrogen dioxide, hydrogen peroxide, urea hydrogen peroxide		Other	chemical - endogenous mammalian
IKBKB	AI132552, AIM-1, I kappa b beta, i κ b kinase, I κ b β , Ikb Kinase Beta, Ikb Kinase β , IKK-2	inhibitor of kappa light polypeptide gene enhancer in B-cells, kinase beta	Cytoplasm	kinase
IL10	CSIF, GVHDS, IL10A, IL10X, interleukin 10, TGIF	interleukin 10	Extracellular Space	cytokine

Insulin	Ins		Extracellular Space	group
Jnk	JNK 54/46, Jnk p56, JUN KINASE, p40, p47, Sapk/Jnk		Cytoplasm	group
KLHL41	Gm112, KBTBD10, Kel-like protein 23, kelch-like 41, kelch-like family member 41, KRP1, NEM9	kelch-like family member 41	Cytoplasm	other
L-triiodothyronine	(2S)-2-amino-3-[4-(4-hydroxy-3-iodophenoxy)-3,5-diiodophenyl]propanoic acid, 3,3',5-triiodo-L-thyronine		Other	chemical - endogenous mammalian
LBP	BP1FD2, Lipopolysaccharide binding, lipopolysaccharide binding protein, Ly88	lipopolysaccharide binding protein	Plasma Membrane	transporter
LCP2	AI323664, BB161688, Lymphocyte cytosolic protein 2	lymphocyte cytosolic protein 2 (SH2 domain containing leukocyte protein of 76kDa)	Cytoplasm	other
Mapk	Map Kinase, NGF/EGF DEPENDENT KINASE		Cytoplasm	group
MAPK1	9030612K14Rik, AA407128, AU018647, C78273, ERK, ERK-2, ERK42, ERT1	mitogen-activated protein kinase 1	Cytoplasm	kinase
NCOA1	bHLHe42, bHLHe74, F-SRC-1, KAT13A, NCOA, nuclear receptor coactivator 1	nuclear receptor coactivator 1	Nucleus	transcription regulator
nonylphenol	1300-16-9, 2,6-dimethyl-4-heptylphenol, (O and P), 25154-52-3, 27936-43-2		Other	chemical toxicant
NR1I2	BXR, mPXR, nuclear receptor subfamily 1, group I, member 2, ONR1, PAR1, PAR2, PAR, PARq	nuclear receptor subfamily 1, group I, member 2	Nucleus	ligand-dependent nuclear receptor
NRIP1	6030458L20Rik, 8430438I05RIK, 9630050P12, AA959574, AW456757	nuclear receptor interacting protein 1	Nucleus	transcription regulator

NT5E	2210401F01Rik, 5' NUCLEOTIDASE, 5' nucleotidase, ecto, 5'-nucleotidase, ecto (CD73)	5'-nucleotidase, ecto (CD73)	Plasma Membrane	phosphatase
pregnenolone	1-[(3S,8S,9S,10R,13R,14S,17S)-3-hydroxy-10,13-dimethyl-2,3,4,7,8,9,11,12,14,15,16		Other	chemical - endogenous mammalian
PTGS2	COX-2, CYCLO-OXYGENASE 2, GRIPGHS, hCox-2, INDUCIBLE CYCLOOXYGENASE, MTCO2	prostaglandin-endoperoxide synthase 2 (prostaglandin G/H synthase and cyclooxygenase)	Cytoplasm	enzyme
RAB14	0610030G24Rik, 2810475J17Rik, A830021G03RIK, AI314285, AI649155, D030017L14RIK, FBP	RAB14, member RAS oncogene family	Cytoplasm	enzyme
S100A6	2A9, 5B10, CABP, CACY, CALCYCLIN, PRA, S100 calcium binding protein A6	S100 calcium binding protein A6	Cytoplasm	transporter
SLC1A5	AAAT, ASCT2, ATBO, H4-ASCT2, M7V1, M7VS1, R16, RDRC, Slc1a7	solute carrier family 1 (neutral amino acid transporter), member 5	Plasma Membrane	transporter
SLC22A6	HOAT1, mOat1, NKT, OAT1, Orct11, PAHT, ROAT1	solute carrier family 22 (organic anion transporter), member 6	Plasma Membrane	transporter
Slc1a1	A530084B21, LOC100360270, Oatp, OATP-1, Oatp1a1, Slc21a1	solute carrier organic anion transporter family, member 1a1	Plasma Membrane	transporter
Sod	1.15.1.1, copper-zinc superoxide dismutase, Cu,Zn-SOD, Cu-Zn superoxide dismutase, cuprein		Cytoplasm	group
STK17B	3110009A03Rik, AI120141, DRAK2, serine/threonine kinase 17b	serine/threonine kinase 17b	Nucleus	kinase
testosterone	(8R,9S,10R,13S,14S,17S)-17-hydroxy-10,13-dimethyl-1,2,6,7,8,9,11,12,14,15,16		Other	chemical - endogenous mammalian

Supplementary Table S12: Nonyl Phenol and Organismal Survival

Symbol	Synonym(s)	Entrez Gene Name	Location	Family
ADIPOQ	ACDC, ACRP30, adipo, Adipocyte complement related protein of 30 kda, ADIPOD	adiponectin, C1Q and collagen domain containing	Extracellular Space	other
Akt	AKT1/2/3, B/Akt, Pkb, RAC-PK		Cytoplasm	group
ALDH5A1	6330403E24RIK, Ahd-1, aldehyde dehydrogenase 5 family, member A1	aldehyde dehydrogenase 5 family, member A1	Cytoplasm	enzyme
aldosterone	(11beta)-11,21-dihydroxy-3,20-dioxopregn-4-en-18-al		Other	chemical - endogenous mammalian
APOB	Aa1064, Ac1-060, AI315052, APOB-29, APOLIPOPROTEIN B, FLDB, LDLCQ4	apolipoprotein B	Extracellular Space	transporter
ATP6AP1	16A, AC45, AI316502, ATP6IP1, ATP6S1, ATPase, H ⁺ transporting, lysosomal accessory protein 1	ATPase, H ⁺ transporting, lysosomal accessory protein 1	Cytoplasm	transporter
CCL2	Ccl12, chemokine (C-C motif) ligand 12, chemokine (C-C motif) ligand 2	chemokine (C-C motif) ligand 2	Extracellular Space	cytokine
corticosterone	(8S,9S,10R,11S,13S,14S,17S)-11-hydroxy-17-(2-hydroxyacetyl)-10,13-dimethyl-1,2,6,7,8,9,11,12,14,15		Other	chemical - endogenous mammalian
CXCL10	C7, chemokine (C-X-C motif) ligand 10, CRG-2, gamma-IFN INDUCIBLE EARLY RESPONSE, gIP-10	chemokine (C-X-C motif) ligand 10	Extracellular Space	cytokine
CYP17A1	17 alpha-hydroxylase, 17 α -hydroxylase, C17,20 Lyase, CPT7, CYP17, CYPXVII, cytochrome P450	cytochrome P450, family 17, subfamily A, polypeptide 1	Cytoplasm	enzyme
CYP3A5	AI256190, cDEX, CP35, CYP, Cyp3a, Cyp3a1, Cyp3a11, Cyp3a16, Cyp3a2, Cyp3a23,	cytochrome P450, family 3, subfamily A, polypeptide 5	Cytoplasm	enzyme
EREG	Epiregulin, EPR, ER	epiregulin	Extracellular Space	growth factor

ESR1	Alpha estrogen receptor, ER, Er alpha (46 kDa isoform), Er α (46 kDa isoform), ER-alpha, ER- α , ER66	estrogen receptor 1	Nucleus	ligand-dependent nuclear receptor
ESR2	beta ESTROGEN receptor, ER-BETA, ER- β , Erb, ERB2, ER[b], ESR-BETA, ESR- β , ESRB, ESTRB	estrogen receptor 2 (ER beta)	Nucleus	ligand-dependent nuclear receptor
FAS	AI196731, ALPS1A, APO-1, APT1, CD95, CD95 receptor, CD95L, Fas (TNF receptor superfamily member 6)	Fas cell surface death receptor	Plasma Membrane	transmembrane receptor
FASLG	ALPS1B, APT1LG1, APTL, CD178, CD95-L, Fas ligand, Fas ligand (TNF superfamily, member 6), FASL,	Fas ligand (TNF superfamily, member 6)	Extracellular Space	cytokine
HSPA1A/HSPA1B	HEAT SHOCK 70-KDA, heat shock 70kD protein 1A, heat shock 70kD protein 1B (mapped)	heat shock 70kDa protein 1A	Cytoplasm	enzyme
hydrogen peroxide	7722-84-1, H2O2, hydrogen dioxide, hydrogen peroxide, urea hydrogen peroxide		Other	chemical - endogenous mammalian
IKBKB	AI132552, AIM-1, I kappa b beta, i κ b kinase, I κ b β , Ikb Kinase Beta, Ikb Kinase β , IKK-2, IKK-beta	inhibitor of kappa light polypeptide gene enhancer in B-cells, kinase beta	Cytoplasm	kinase
IL10	CSIF, GVHDS, IL10A, IL10X, interleukin 10, TGIF	interleukin 10	Extracellular Space	cytokine
Insulin	Ins		Extracellular Space	group
L-triiodothyronine	(2S)-2-amino-3-[4-(4-hydroxy-3-iodophenoxy)-3,5-diiodophenyl]propanoic acid, 3,3',5-triiodo-L-thyronine		Other	chemical - endogenous mammalian
LBP	BPIFD2, Lipopolysaccharide binding, lipopolysaccharide binding protein, Ly88	lipopolysaccharide binding protein	Plasma Membrane	transporter

LCP2	AI323664, BB161688, Lymphocyte cytosolic protein 2	lymphocyte cytosolic protein 2 (SH2 domain containing leukocyte protein of 76kDa)	Cytoplasm	other
MAPK1	9030612K14Rik, AA407128, AU018647, C78273, ERK, ERK-2, ERK42, ERT1, Mapk p42	mitogen-activated protein kinase 1	Cytoplasm	kinase
NCOA1	bHLHe42, bHLHe74, F-SRC-1, KAT13A, NCOA, nuclear receptor coactivator 1, RIP160, SRC-1	nuclear receptor coactivator 1	Nucleus	transcription regulator
nonylphenol	1300-16-9, 2,6-dimethyl-4-heptylphenol, (O and P), 25154-52-3, 27936-43-2, 28987-17-9, 31291-42-6		Other	chemical toxicant
NR1I2	BXR, mPXR, nuclear receptor subfamily 1, group I, member 2, ONR1, PAR, PAR1, PAR2, PARq, PRR, PXR	nuclear receptor subfamily 1, group I, member 2	Nucleus	ligand-dependent nuclear receptor
NT5E	2210401F01Rik, 5' NUCLEOTIDASE, 5' nucleotidase, ecto, 5'-nucleotidase, ecto (CD73), 5'nt, AI447961	5'-nucleotidase, ecto (CD73)	Plasma Membrane	phosphatase
OXT	OP, OT, OT-NPI, OXT-NPI, Oxy, oxytocin, Oxytocin-neurophysin i, oxytocin/neurophysin 1 prepropeptide	oxytocin/neurophysin I prepropeptide	Extracellular Space	other
PTGS2	COX-2, CYCLO-OXYGENASE 2, GRIPGHS, hCox-2, INDUCIBLE CYCLOOXYGENASE, MTCO2	prostaglandin-endoperoxide synthase 2 (prostaglandin G/H synthase and cyclooxygenase)	Cytoplasm	enzyme
Sod	1.15.1.1, copper-zinc superoxide dismutase, Cu,Zn-SOD, Cu-Zn superoxide dismutase, cuprein, cytocuprein		Cytoplasm	group
testosterone	(8R,9S,10R,13S,14S,17S)-17-hydroxy-10,13-dimethyl-1,2,6,7,8,9,11,12,14,15,16		Other	chemical - endogenous mammalian

Supplementary Table S13: Nonyl Phenol and Cancer

Symbol	Synonym(s)	Entrez Gene Name	Location	Family
ADIPOQ	ACDC, ACRP30, adipo, Adipocyte complement related protein of 30 kda, ADIPOD, ADIPONECTIN	adiponectin, C1Q and collagen domain containing	Extracellular Space	other
Akt	AKT1/2/3, B/Akt, Pkb, RAC-PK		Cytoplasm	group
ALAS1	5'-aminolevulinate synthase 1, ALAS, ALAS-H, ALAS-N, ALAS3, aminolevulinic acid synthase 1	5'-aminolevulinate synthase 1	Cytoplasm	enzyme
ALDH5A1	6330403E24RIK, Ahd-1, aldehyde dehydrogenase 5 family, member A1, aldehyde dehydrogenase family 5	aldehyde dehydrogenase 5 family, member A1	Cytoplasm	enzyme
aldosterone	11beta,21-dihydroxypregn-4-ene-3,18,20-trione, 52-39-1, (11beta)-11		Other	chemical - endogenous mammalian
APOB	Aa1064, Ac1-060, AI315052, APOB-29, APOLIPOPROTEIN B, FLDB, LDLCQ4	apolipoprotein B	Extracellular Space	transporter
ATP6AP1	16A, AC45, AI316502, ATP6IP1, ATP6S1, ATPase, H ⁺ transporting, lysosomal accessory protein 1	ATPase, H ⁺ transporting, lysosomal accessory protein 1	Cytoplasm	transporter
CCL2	Ccl12, chemokine (C-C motif) ligand 12, chemokine (C-C motif) ligand 2	chemokine (C-C motif) ligand 2	Extracellular Space	cytokine
CXCL10	C7, chemokine (C-X-C motif) ligand 10, CRG-2, gamma-IFN INDUCIBLE EARLY RESPONSE	chemokine (C-X-C motif) ligand 10	Extracellular Space	cytokine
CYP17A1	17 alpha-hydroxylase, 17 α -hydroxylase, C17,20 Lyase, CPT7, CYP17, CYPXVII, cytochrome P450	cytochrome P450, family 17, subfamily A, polypeptide 1	Cytoplasm	enzyme
CYP3A5	AI256190, cDEX, CP35, CYP, Cyp3a1, Cyp3a2, Cyp3a3, Cyp3a4, Cyp3a11, Cyp3a16, Cyp3a23, Cyp3a41	cytochrome P450, family 3, subfamily A, polypeptide 5	Cytoplasm	enzyme

EPHA8	AW047546, EEK, EK3, EPH receptor A8, HEK3, LOC60589, mKIAA1459	EPH receptor A8	Plasma Membrane	kinase
EREG	Epiregulin, EPR, ER	epiregulin	Extracellular Space	growth factor
ESR1	Alpha estrogen receptor, ER, Er alpha (46 kDa isoform), Er α (46 kDa isoform), ER-alpha, ER- α , ER66, Era	estrogen receptor 1	Nucleus	ligand-dependent nuclear receptor
ESR2	beta ESTROGEN receptor, ER-BETA, ER- β , Erb, ERB2, ER[b], ESR-BETA, ESR- β , ESRB, ESTRB	estrogen receptor 2 (ER beta)	Nucleus	ligand-dependent nuclear receptor
FAS	AI196731, ALPS1A, APO-1, APT1, CD95, CD95 receptor, CD95L	Fas cell surface death receptor	Plasma Membrane	transmembrane receptor
FASLG	ALPS1B, APT1LG1, APTL, CD178, CD95-L, Fas ligand	Fas ligand (TNF superfamily, member 6)	Extracellular Space	cytokine
GHRH	GHRF, GRF, Grh, Growth hormone releasing hormone, INN	growth hormone releasing hormone	Extracellular Space	other
HSPA1A/HSPA1B	HEAT SHOCK 70-KDA, heat shock 70kD protein 1A, heat shock 70kD protein 1B (mapped)	heat shock 70kDa protein 1A	Cytoplasm	enzyme
hydrogen peroxide	7722-84-1, H2O2, hydrogen dioxide, hydrogen peroxide, urea hydrogen peroxide		Other	chemical - endogenous mammalian
IKBKB	AI132552, AIM-1, I kappa b beta, i κ b kinase, I κ b β , Ikb Kinase Beta, Ikb Kinase β , IKK-2, IKK-beta	inhibitor of kappa light polypeptide gene enhancer in B-cells, kinase beta	Cytoplasm	kinase
IL10	CSIF, GVHDS, IL10A, IL10X, interleukin 10, TGIF	interleukin 10	Extracellular Space	cytokine
Insulin	Ins		Extracellular Space	group
Jnk	JNK 54/46, Jnk p56, JUN KINASE, p40, p47, Sapk/Jnk		Cytoplasm	group

L-triiodothyronine	(2S)-2-amino-3-[4-(4-hydroxy-3-iodophenoxy)-3,5-diiodophenyl]propanoic acid		Other	chemical - endogenous mammalian
LBP	BPIFD2, Lipopolysaccharide binding, lipopolysaccharide binding protein, Ly88	lipopolysaccharide binding protein	Plasma Membrane	transporter
LCP2	AI323664, BB161688, Lymphocyte cytosolic protein 2, lymphocyte cytosolic protein 2	lymphocyte cytosolic protein 2 (SH2 domain containing leukocyte protein of 76kDa)	Cytoplasm	other
Mapk	Map Kinase, NGF/EGF DEPENDENT KINASE		Cytoplasm	group
MAPK1	9030612K14Rik, AA407128, AU018647, C78273, ERK, ERK-2, ERK42, ERT1, Mapk p42	mitogen-activated protein kinase 1	Cytoplasm	kinase
NCOA1	bHLHe42, bHLHe74, F-SRC-1, KAT13A, NCOA, nuclear receptor coactivator 1, RIP160, SRC-1	nuclear receptor coactivator 1	Nucleus	transcription regulator
nonylphenol	1300-16-9, 2,6-dimethyl-4-heptylphenol, (O and P), 25154-52-3, 27936-43-2, 28987-17-9, 31291-42-6		Other	chemical toxicant
NR1I2	BXR, mPXR, nuclear receptor subfamily 1, group I, member 2, ONR1, PAR, PAR1, PAR2, PARq, PRR	nuclear receptor subfamily 1, group I, member 2	Nucleus	ligand-dependent nuclear receptor
NT5E	2210401F01Rik, 5' NUCLEOTIDASE, 5' nucleotidase, ecto, 5'-nucleotidase, ecto (CD73), 5'nt, AI447961	5'-nucleotidase, ecto (CD73)	Plasma Membrane	phosphatase
PTGS2	COX-2, CYCLO-OXYGENASE 2, GRIPGHS, hCox-2, INDUCIBLE CYCLOOXYGENASE	prostaglandin-endoperoxide synthase 2 (prostaglandin G/H synthase and cyclooxygenase)	Cytoplasm	enzyme
RAB14	0610030G24Rik, 2810475J17Rik, A830021G03RIK, AI314285, AI649155, D030017L14RIK, FBP	RAB14, member RAS oncogene family	Cytoplasm	enzyme

S100A6	2A9, 5B10, CABP, CACY, CALCYCLIN, PRA, S100 calcium binding protein A6	S100 calcium binding protein A6	Cytoplasm	transporter
SLC1A5	AAAT, ASCT2, ATBO, H4-ASCT2, M7V1, M7VS1, R16, RDRC, Slc1a7	solute carrier family 1 (neutral amino acid transporter), member 5	Plasma Membrane	transporter
SLC22A6	HOAT1, mOat1, NKT, OAT1, Orectl1, PAHT, ROAT1, solute carrier family 22 (organic anion transporter)	solute carrier family 22 (organic anion transporter), member 6	Plasma Membrane	transporter
Slco1a1	A530084B21, LOC100360270, Oatp, OATP-1, Oatp1a1, Slc21a1, Slc21a3, Slco1a	solute carrier organic anion transporter family, member 1a1	Plasma Membrane	transporter
STK17B	3110009A03Rik, AI120141, DRAK2, serine/threonine kinase 17b	serine/threonine kinase 17b	Nucleus	kinase
testosterone	(8R,9S,10R,13S,14S,17S)-17-hydroxy-10,13-dimethyl-1,2,6,7,8,9,11,12,14,15,16,		Other	chemical - endogenous mammalian

Supplementary Table 14: BPA and Organismal Injury

Symbol	Synonym(s)	Entrez Gene Name	Location	Family
ADIPOQ	ACDC, ACRP30, Ad, adipo, Adipocyte complement related protein of 30 kda, ADIPOD, ADIPONECTIN	adiponectin, C1Q and collagen domain containing	Extracellular Space	other
Akt	AKT1/2/3, B/Akt, Pkb, RAC-PK		Cytoplasm	group
ALAS1	5'-aminolevulinate synthase 1, ALAS, ALAS-H, ALAS-N, ALAS3, aminolevulinic acid synthase 1	5'-aminolevulinate synthase 1	Cytoplasm	enzyme
ALDH5A1	6330403E24RIK, Ahd-1, aldehyde dehydrogenase 5 family member A1, aldehyde dehydrogenase 5 family	aldehyde dehydrogenase 5 family member A1	Cytoplasm	enzyme
Alp	3.1.3.1, alkaline phenyl phosphatase, Alkaline Phosphatase, alkaline phosphohydrolase		Other	group
APOB	Aa1064, Ac1-060, AI315052, apoB-100, APOB-29, apoB-48, APOLIPOPROTEIN B, FLDB, LDLCQ4	apolipoprotein B	Extracellular Space	transporter
AR	AIS, Andr, androgen receptor, AR8, AW320017, DHTR, HUMARA, HYSPI, KD, NR3C4, SBMA	androgen receptor	Nucleus	ligand-dependent nuclear receptor
ARNT2	aryl hydrocarbon receptor nuclear translocator 2, bHLHe1, Hif-2b, KIAA0307, mKIAA0307, WEDAS	aryl hydrocarbon receptor nuclear translocator 2	Nucleus	transcription regulator
Atg5	autophagy related 5	autophagy related 5	Cytoplasm	other
ATP5O	Atp Synthase, H ⁺ Transporting, Mitochondrial F1 Complex, O Subunit, Atp synthase-mitochondrial fl	ATP synthase, H ⁺ transporting, mitochondrial F1 complex, O subunit	Cytoplasm	transporter

BAX	BAX ε, Bcl2-associated X, BCL2-associated X protein, BCL2L4	BCL2-associated X protein	Cytoplasm	transporter
BCL2	AW986256, B cell leukaemia/lymphoma 2, B cell leukemia/lymphoma 2, B-cell CLL/lymphoma 2	B-cell CLL/lymphoma 2	Cytoplasm	transporter
BECN1	4921513J16Rik, 5430417M23Rik, ATG6, Beclin 1, beclin 1, autophagy related, VPS30	beclin 1, autophagy related	Cytoplasm	other
beta-estradiol	(17)estradiol, (8R,9S,13S,14S,17S)-13-methyl-6,7,8,9,11,12,14,15,16		Other	chemical - endogenous mammalian
bisphenol A	2,2-(4,4'-dihydroxydiphenyl)propane, 2,2-bis(4-hydroxyphenyl)propane, 4'-bisphenol A		Other	chemical - endogenous non-mammalian
C3	ACYLATION STIMULATING, AHUS5, AI255234, ARMD9, ASP, Complement c3	complement component 3	Extracellular Space	peptidase
Ca2+	14127-61-8, Ca+2, calcium, calcium cation, calcium citrate, calcium ion, calcium ions, calcium(2+)		Other	chemical - endogenous mammalian
CASP3	A830040C14Rik, AC-3, Caspase-3, CASPASE-3 p20, CC3, CPP-32, CPP32B, Ice-like cysteine protease	caspase 3	Cytoplasm	peptidase
CCL2	Ccl12, chemokine (C-C motif) ligand 12, chemokine (C-C motif) ligand 2	chemokine (C-C motif) ligand 2	Extracellular Space	cytokine
CCNE1	AW538188, CCNE, CycE1, CYCLE, cyclin E, cyclin E1, pCCNE1	cyclin E1	Nucleus	transcription regulator
CDH1	AA960649, ARC-1, cadherin 1, Cadherin E, CD324, CDHE, CSEIL, E-cadherin, ECAD, L-CAM	cadherin 1	Plasma Membrane	other

CDK4	CMM3, Crk3, cyclin-dependent kinase 4, LOC100362034, PSK-J3	cyclin-dependent kinase 4	Nucleus	kinase
CDKN1A	CAP20, CDKI, CDKN1, CDKNA1, CIP1, cyclin-dependent kinase inhibitor 1A	cyclin-dependent kinase inhibitor 1A (p21, Cip1)	Nucleus	kinase
CDKN1B	AA408329, AI843786, Cdk1b, CDKN4, cyclin-dependent kinase inhibitor 1B	cyclin-dependent kinase inhibitor 1B (p27, Kip1)	Nucleus	kinase
CFD	ADIPSIN, ADN, complement factor D (adipsin), DF, EVE, Factor D, PFD	complement factor D (adipsin)	Extracellular Space	peptidase
chloride	16887-00-6, chloride, chloride ion, chloride(1-), Cl-		Other	chemical - endogenous mammalian
CITED2	AI835299, ASD8, Cbp/p300-interacting transactivator, with Glu/Asp-rich carboxy-terminal domain	Cbp/p300-interacting transactivator, with Glu/Asp rich carboxy-terminal domain, 2	Nucleus	transcription regulator
CLU	AAG4, AI893575, APO-J, CLI, CLUSTERIN, COMPLEMENT CYTOLYSIS INHIBITOR, D14Ucla3	clusterin	Cytoplasm	other
Collagen(s)	Collagen, Collagen(s)		Extracellular Space	complex
Creb	Cbp, Cyclic AMP response element binding		Nucleus	group
CTGF	AMPHIROGULIN, CCN2, connective tissue growth factor, CTGF isoform 1, CTGRP	connective tissue growth factor	Extracellular Space	growth factor
CTSD	CatD, cathepsin D, Cathespin D, CD, CLN10, CPSD, EAI, HEL-S-130P, LOC196214	cathepsin D	Cytoplasm	peptidase
CTTN	1110020L01Rik, amplaxin, Cortactin, Ctnnb, EMS1	cortactin	Plasma Membrane	other

CXCL10	C7, chemokine (C-X-C motif) ligand 10, CRG-2, gamma-IFN INDUCIBLE EARLY RESPONSE	chemokine (C-X-C motif) ligand 10	Extracellular Space	cytokine
CXCL12	chemokine (C-X-C motif) ligand 12, CXCL12 isoform 1, hIRH, IRH, PBSF, SCYB12, SDF	chemokine (C-X-C motif) ligand 12	Extracellular Space	cytokine
Cyclin D	CycD, Cyclin D1		Nucleus	group
CYP19A1	Ar, ArKO, ARO, ARO1, Aromatase, CPV1, CYAR, CYP19, Cyp19a, CYP19P1, CYPXIX	cytochrome P450 family 19 subfamily A member 1	Cytoplasm	enzyme
D-glucose	(3R,4S,5S,6R)-6-(hydroxymethyl)oxane-2,3,4,5-tetrol, 2280-44-6, 50-99-7, biliary glucose, C6H12O6		Other	chemical - endogenous mammalian
dopamine	1,2-benzenediol, 4-(2-aminoethyl)-, 1,2-benzenediol, 4-(2-aminoethyl)-(9CI), 4-(2-aminoethyl)benzene-1		Other	chemical - endogenous mammalian
EGR1	A530045N19Rik, AT225, Early Growth Response 1, egr, ETR103, G0S30, Krox-1, KROX-24, Ngf1	early growth response 1	Nucleus	transcription regulator
ENO1	0610008I15, AL022784, EG433182, Eno1b, ENO1L1, ENOLASE, ENOLASE 1, Enolase 1 alpha	enolase 1, (alpha)	Cytoplasm	enzyme
ENO2	AI837106, D6ErtD375e, enolase 2 (gamma, neuronal), enolase 2 (γ , neuronal), enolase 2	enolase 2 (gamma, neuronal)	Cytoplasm	enzyme
EPHA8	AW047546, EEK, EK3, EPH receptor A8, HEK3, LOC60589, mKIAA1459	EPH receptor A8	Plasma Membrane	kinase
ERK1/2	p42/44 mapk, P42/p44 erk, p42/p44 MAP KINASE, P42/p44 mapk, p44/p42 MAPK		Cytoplasm	group

ESR1	Alpha estrogen receptor, ER, Er alpha (46 kDa isoform), Er α (46 kDa isoform), ER-alpha, ER- α , ER66	estrogen receptor 1	Nucleus	ligand-dependent nuclear receptor
ESR2	beta ESTROGEN receptor, ER-BETA, ER- β , Erb, ERB2, ER[b], ESR-BETA, ESR- β , ESRB, ESTRB	estrogen receptor 2 (ER beta)	Nucleus	ligand-dependent nuclear receptor
ESRRG	Err γ , ERR3, Errg, ERRG2, ERRgamma, estrogen-related receptor gamma, estrogen-related receptor- γ	estrogen related receptor gamma	Nucleus	ligand-dependent nuclear receptor
estrogen receptor	ER, ESR, ESR1/2, esr1/esr2		Nucleus	group
FOS	AP-1, C-FOS, D12Rfj1, FBJ murine osteosarcoma viral oncogene homolog, FBJ osteosarcoma oncogene, p55	FBJ murine osteosarcoma viral oncogene homolog	Nucleus	transcription regulator
GHRH	GHRF, GRF, Grh, Growth hormone releasing hormone, INN	growth hormone releasing hormone	Extracellular Space	other
GNRHR	GH1, GnRh receptor, GnRH-I, GnRHR Catfish, GNRHR1, gonadotropin releasing hormone receptor, GRHR	gonadotropin releasing hormone receptor	Plasma Membrane	G-protein coupled receptor
GRIN1	GluN1, GluRdelta1, GluRzeta1, glutamate receptor, ionotropic, N-methyl D-aspartate 1, glutamate receptor	glutamate receptor, ionotropic, N-methyl D-aspartate 1	Plasma Membrane	ion channel
hemoglobin	haemoglobin, Hb		Other	complex
histamine	1H-imidazole-4-ethanamine, 2-(1H-imidazol-5-yl)ethanamine, 2-imidazol-4-ylethylamine, 51-45-6, 56-92-8		Other	chemical - endogenous mammalian
Histone h3	H3, H3.3, Histone H3B		Nucleus	group

HSP90AB1	AL022974, C81438, D6S182, heat shock protein 90 alpha (cytosolic), class B member 1	heat shock protein 90kDa alpha family class B member 1	Cytoplasm	enzyme
HSP90B1	ECGP, endoplasmin, ERP99, FLJ22209, GP96, GRP94, heat shock protein 90, beta (Grp94), member 1	heat shock protein 90kDa beta family member 1	Cytoplasm	other
HSPA1A/HSPA1B	HEAT SHOCK 70-KDA, heat shock 70kD protein 1A, heat shock 70kD protein 1B (mapped)	heat shock protein family A (Hsp70) member 1A	Cytoplasm	enzyme
IGF1	C730016P09Rik, des(1-3)IGF-I, Des-(1-3)-igf1, IGF-I, IGF-I-smC, insulin like growth factor I	insulin like growth factor 1	Extracellular Space	growth factor
IGF1R	A330103N21RIK, CD221, D930020L01, hyft, IGF-1 receptor, IGF1R beta chain, Igflr beta isoform, Igflr β	insulin like growth factor 1 receptor	Plasma Membrane	transmembrane receptor
IKBKB	AI132552, AIM-1, I kappa b beta, i κ b kinase, I κ b β , Ikb Kinase Beta, Ikb Kinase β , IKK-2, IKK-beta	inhibitor of kappa light polypeptide gene enhancer in B-cells, kinase beta	Cytoplasm	kinase
Inhibin			Other	complex
IRS1	ENSMUSG00000022591, G972R, HIRS-1, insulin receptor substrate 1, IRS1IRM	insulin receptor substrate 1	Cytoplasm	enzyme
KAT5	AI839539, CPLA2, ESA1, HTATIP, HTATIP1, K(lysine) acetyltransferase 5, PLIP, TIP, Tip55	K(lysine) acetyltransferase 5	Nucleus	transcription regulator
KDR	6130401C07, CD309, Flk, FLK1, Kinase Insert Domain, kinase insert domain protein receptor	kinase insert domain receptor	Plasma Membrane	kinase
KISS1	Eseptin, Gm28040, HH13, KiSS-1 metastasis-suppressor, Kisspeptin, Kisspeptin-1, metastatin	KiSS-1 metastasis-suppressor	Cytoplasm	other

KLHL41	Gm112, KBTBD10, Kel-like protein 23, kelch-like 41, kelch-like family member 41, KRP1, SARCOSIN	kelch like family member 41	Cytoplasm	other
LAMP2	CD107b, Lamp II, Lamp-2b, Lamp-2c, LAMPB, LGP-B, LGP110, lysosomal-associated membrane protein 2	lysosomal associated membrane protein 2	Plasma Membrane	enzyme
LBP	BPIFD2, Lipopolysaccharide binding, lipopolysaccharide binding protein, Ly88	lipopolysaccharide binding protein	Plasma Membrane	transporter
LCN2	24p3, Alpha2u globulin related, AW212229, HNL, LIPOCALIN 2, MSFI, NEUTROPHIL LIPOCALIN	lipocalin 2	Extracellular Space	transporter
LCP2	AI323664, BB161688, Lymphocyte cytosolic protein 2, SLP-76, twm	lymphocyte cytosolic protein 2	Cytoplasm	other
LEP	LEPD, Leptin, OB, obese, Obgrp, OBS	leptin	Extracellular Space	growth factor
Lh	LUTEINIZING HORMONE		Plasma Membrane	complex
LHCGR	Gpcr19-rs1, HHG, LCGR, LGR2, LH receptor, LH-R, LH/CG-R, LHRHR, LSH-R	luteinizing hormone/choriogonadotropin receptor	Plasma Membrane	G-protein coupled receptor
lipid	lipids		Other	chemical - endogenous mammalian
LYZ	AI326280, Lys, Lysm, lysozyme, lysozyme 1, lysozyme 2, Lysozyme M, Lysozyme p, Lysz	lysozyme	Extracellular Space	enzyme
malondialdehyde	1,3-propanedialdehyde, 1,3-propanedione, 542-78-9, C3H4O2, malonaldehyde, malonic dialdehyde		Other	chemical toxicant
MAOA	1110061B18Rik, AA407771, Mao, Monoamine Oxidase A, NC61C12.R1	monoamine oxidase A	Cytoplasm	enzyme

MAP1LC3A	1010001H21Rik, 4922501H04Rik, ATG8E, LC3, Lc3-I, LC3A, MAP LC3, MAP1ALC3, MAP1BLC3	microtubule associated protein 1 light chain 3 alpha	Cytoplasm	other
MAP1LC3B	1010001C15Rik, Atg8, ATG8F, Jhl1, Lc3, lc3-II, LC3B, MAP1A/1BLC3, MAP1LC3, MAP1LC3B-a	microtubule associated protein 1 light chain 3 beta	Cytoplasm	other
MAPK8	AI849689, C-JUN N-TERMINAL KINASE1, JNK, JNK-46, JNK1, JNK1A2, JNK21B1/2	mitogen-activated protein kinase 8	Cytoplasm	kinase
mir-146	hsa-mir-146, hsa-mir-146a, HSA-MIR-146B, microRNA 146, microRNA 146a, microRNA 146b	microRNA 146a	Cytoplasm	microRNA
Mmp	Matrix Metalloproteinase, MATRIX METALLOPROTEINASES, mmp (Matrix Metalloproteinase), mmpi		Nucleus	group
MMP9	AW743869, B/MMP9, CLG4B, COLLAGENASE type IV, Gelatinase B, GELB, Gl 92-kda, MANDP2	matrix metalloproteinase 9	Extracellular Space	peptidase
N-cor			Nucleus	group
NCOA1	bHLHe42, bHLHe74, F-SRC-1, KAT13A, NCOA, nuclear receptor coactivator 1, RIP160, SRC-1	nuclear receptor coactivator 1	Nucleus	transcription regulator
NCOA2	bHLHe75, D1Ertd433e, GRIP-1, KAT13C, nuclear receptor coactivator 2, SRC-2, TIF-2	nuclear receptor coactivator 2	Nucleus	transcription regulator
NFE2L2	BM974200, HEBP1, NRF2, nuclear factor, erythroid 2-like 2, nuclear factor, erythroid derived 2, like 2	nuclear factor, erythroid 2 like 2	Nucleus	transcription regulator
nitric oxide	10102-43-9, Amidogen, oxo-, EDRF, inhaled nitric oxide, INOmax, Mononitrogen monoxide		Other	chemical - endogenous mammalian

NOS3	2310065A03Rik, ECNOS, eNOS, nitric oxide synthase 3, nitric oxide synthase 3, endothelial cell, nNOS	nitric oxide synthase 3	Cytoplasm	enzyme
NR3C1	GCCR, GCR, GCR alpha, GCR α , GCRST, glucocorticoid receptor, Glucocorticoid receptor α -2, GR,	nuclear receptor subfamily 3 group C member 1	Nucleus	ligand-dependent nuclear receptor
NR4A1	Gfrp, GFRP1, Hbr-1, HMR, Hormone receptor, N10, NAK-1, NGFI-B, NP10	nuclear receptor subfamily 4 group A member 1	Nucleus	ligand-dependent nuclear receptor
NR4A2	HZF-3, NOT, nuclear receptor subfamily 4 group A member 2, nuclear receptor subfamily 4, group A	nuclear receptor subfamily 4 group A member 2	Nucleus	ligand-dependent nuclear receptor
NR4A3	AI573420, CHN, CSMF, MINOR, NOR-1, NOR-2, nuclear receptor subfamily 4 group A member 3	nuclear receptor subfamily 4 group A member 3	Nucleus	ligand-dependent nuclear receptor
PAX6	1500038E17Rik, AEY11, AN, AN2, D11S812E, Dey, FVH1, Gsfaey11, MGDA	paired box 6	Nucleus	transcription regulator
PCNA	ATLD2, Pcn/cyclin, PCNAR, proliferating cell nuclear antigen	proliferating cell nuclear antigen	Nucleus	enzyme
PDIA2	1810041F13RIK, AI661267, PDA2, PDI, PDIP, Pdipl, PDIR, protein disulfide isomerase associated 2	protein disulfide isomerase family A member 2	Cytoplasm	enzyme
PGR	9930019P03Rik, BB114106, ENSMUSG00000074510, LOC360433, NR3C3, Pgrb, PR, PR beta, PR β	progesterone receptor	Nucleus	ligand-dependent nuclear receptor
phosphorus	7723-14-0, P, phosphorous, phosphorus		Other	chemical reagent

PIK3R1	AA414921, AGM7, GRB1, IMD36, p85, p85 subunit of PI3-kinase, P85 α , p85-alpha	phosphoinositide-3-kinase regulatory subunit 1	Cytoplasm	kinase
PKM	AA414905, AL024370, AL024424, CTHBP, HEL-S-30, M2-Pk, OIP3, Pk-2, PK3, PKM12, PKM2	pyruvate kinase, muscle	Cytoplasm	kinase
PLN	CMD1P, CMH18, Phospholamban, PLB, Plm	phospholamban	Cytoplasm	transporter
POU5F1	NF-A3, OCT3, OCT3/4, OCT4, OTF-3, Otf3-rs7, Otf3g, OTF4, POU class 5 homeobox 1, POU domain	POU class 5 homeobox 1	Nucleus	transcription regulator
PPARG	CIMT1, GLM1, NR1C3, peroxisome proliferator activator receptor γ	peroxisome proliferator-activated receptor gamma	Nucleus	ligand-dependent nuclear receptor
PRDX2	AL022839, Band-8, HEL-S-2a, NKEF-B, Peroxiredoxin 2, PRP, PRX II, PRX2, PTX1, TDPX1, TDX1	peroxiredoxin 2	Cytoplasm	enzyme
PRKDC	AI326420, AU019811, DNA-DEPENDENT protein KINASE, DNA-PKcs, DNAPDcs, DNAPK, DNPK1	protein kinase, DNA-activated, catalytic polypeptide	Nucleus	kinase
PRL	AV290867, Dlt, GHA1, Prl1a1, PRLB, PRLSD1, Prol, prolactin, RATPRLSD1, RNPROL	prolactin	Extracellular Space	cytokine
progesterone	(8S,9S,10R,13S,14S,17S)-17-acetyl-10,13-dimethyl-1,2,6,7,8,9,11,12,14,15,16		Other	chemical - endogenous mammalian
Proinsulin	Insulin		Other	group
PTGS2	COX-2, CYCLO-OXYGENASE 2, GRIPGHS, hCox-2, INDUCIBLE CYCLOOXYGENASE, MTCO2	prostaglandin-endoperoxide synthase 2 (prostaglandin G/H synthase and cyclooxygenase)	Cytoplasm	enzyme

RAB14	0610030G24Rik, 2810475J17Rik, A830021G03RIK, AI314285, AI649155, D030017L14RIK, FBP	RAB14, member RAS oncogene family	Cytoplasm	enzyme
reactive oxygen species	oxygen and reactive oxygen species, reactive oxygen metabolites, ROI, ROS		Other	chemical toxicant
RPH3A	2900002P20Rik, AU022689, AW108370, rabphilin, RABPHILIN 3A, RABPHILIN3	rabphilin 3A	Plasma Membrane	transporter
SKIL	9130011J04RIK, SKI-like, SKI-like proto-oncogene, SKIR, SNO, SnoA, SnoN	SKI-like proto-oncogene	Nucleus	transcription regulator
SLC12A5	KCC2, Kcc2b, Kcc3, mKIAA1176, solute carrier family 12 (potassium-chloride transporter), member 5	solute carrier family 12 (potassium/chloride transporter), member 5	Plasma Membrane	transporter
SLC1A5	AAAT, ASCT2, ATBO, H4-ASCT2, M7V1, M7VS1, R16, RDRC, Slc1a7	solute carrier family 1 (neutral amino acid transporter), member 5	Plasma Membrane	transporter
SLC22A6	HOAT1, mOat1, NKT, OAT1, Orct11, PAHT, ROAT1	solute carrier family 22 (organic anion transporter), member 6	Plasma Membrane	transporter
SLC2A4	Gef, GLUT4, solute carrier family 2 (facilitated glucose transporter), member 4	solute carrier family 2 (facilitated glucose transporter), member 4	Plasma Membrane	transporter
SLC6A4	5-HT TRANSPORTER, 5-HTT, 5-HTTLPR, AI323329, hSERT, HTT, OCD1, Serotonin Transporter	solute carrier family 6 (neurotransmitter transporter), member 4	Plasma Membrane	transporter
Slc1a1	A530084B21, LOC100360270, Oatp, OATP-1, Oatp1a1, Slc21a1, Slc21a3, Slc1a	solute carrier organic anion transporter family, member 1a1	Plasma Membrane	transporter
SMAD3	AU022421, DKFZP586N0721, hMAD-3, HSPC193, HsT17436, JV15-2, LDS1C, LDS3	SMAD family member 3	Nucleus	transcription regulator

SOX2	ANOP3, lcc, LOC100912162, MCOPS3, RGD1565646, SRY (sex determining region Y)-box 2	SRY-box 2	Nucleus	transcription regulator
SRD5A1	0610031P22RIK, 3-oxo-5 alpha-steroid delta 4-dehydrogenase alpha 1	steroid-5-alpha-reductase, alpha polypeptide 1 (3-oxo-5 alpha-steroid delta 4-dehydrogenase alpha 1)	Cytoplasm	enzyme
SRD5A2	5 α reductase type ii, 5-alpha-reductase 2, 5- α -reductase 2, 5alpha-R2, 5alpha-reductase type 2	steroid-5-alpha-reductase, alpha polypeptide 2 (3-oxo-5 alpha-steroid delta 4-dehydrogenase alpha 2)	Cytoplasm	enzyme
SRD5A3	1110025P14Rik, 5alpha-R3, A430076C09, AV364670, AW987574, Bb825787, CDG1P, CDG1Q	steroid 5 alpha-reductase 3	Cytoplasm	enzyme
STAT3	1110034C02Rik, acute-phase response factor, ADMIO, APRF, AW109958, HIES, MGC16063	signal transducer and activator of transcription 3 (acute-phase response factor)	Nucleus	transcription regulator
STK17B	3110009A03Rik, AI120141, DRAK2, serine/threonine kinase 17b	serine/threonine kinase 17b	Nucleus	kinase
SULT1A1	AI266890, ASTIV, HAST1/HAST2, Mx-ST, P-PST, PST, PST-1, ST1A1, ST1A3, Stm, STP	sulfotransferase family 1A member 1	Cytoplasm	enzyme
superoxide	11062-77-4, O ₂ ⁻ , oxygen peroxide, superoxide, superoxide anion, superoxide ion, superoxide radical		Other	chemical - endogenous mammalian
tannic acid	1401-55-4, C ₂₆ H ₂₀ O ₁₈ , gallotannic acid, gallotannin, tannic acid		Other	chemical toxicant
testosterone	(8R,9S,10R,13S,14S,17S)-17-hydroxy-10,13-dimethyl-1,2,6,7,8,9,11,12,14,15,16		Other	chemical - endogenous mammalian

TFF1	BCE1, D21S21, HP1.A, HPS2, NEPHROCALCIN, pNR-2, PS2, TIFF1, trefoil factor 1	trefoil factor 1	Extracellular Space	other
TGFB3	ARVD, ARVD1, PTGF β , RNHF, TGF-beta, TGF-beta-3, TGF- β , TGF- β -3	transforming growth factor beta 3	Extracellular Space	growth factor
THRB	C-ERBA-2, C-ERBA-BETA, C-ERBA- β , ERBA2, GRTH, NR1A2, PRTH, RATT3REC, T3Rbeta	thyroid hormone receptor, beta	Nucleus	ligand-dependent nuclear receptor
thyroid hormone			Other	chemical - endogenous mammalian
TP53	bbl, BCC7, bfy, bhy, LFS1, p44, P53, P53 cellular tumour antigen, p53 tumor suppressor	tumor protein p53	Nucleus	transcription regulator
TPH2	ADHD7, AU043594, NTPH, Tryptophan hydroxylase 2	tryptophan hydroxylase 2	Plasma Membrane	enzyme
triacylglycerol	C6H5O6R3, TG, triacylglyceride, triacylglycerols, triglyacylglycerol, triglyceride, triglycerides, triglycerol		Other	chemical - endogenous mammalian

Supplementary Table 15: BPA and Cell Death

Symbol	Synonym(s)	Entrez Gene Name	Location	Family
ADIPOQ	ACDC, ACRP30, Ad, adipo, Adipocyte complement related protein of 30 kda, ADIPOD	adiponectin, C1Q and collagen domain containing	Extracellular Space	other
Akt	AKT1/2/3, B/Akt, Pkb, RAC-PK		Cytoplasm	group
APOB	Aa1064, Ac1-060, AI315052, apoB-100, APOB-29, apoB-48, APOLIPOPROTEIN B, FLDB, LDLCQ4	apolipoprotein B	Extracellular Space	transporter
AR	AIS, Andr, androgen receptor, AR8, AW320017, DHTR, HUMARA, HYSP1, KD, NR3C4, SBMA, SMAX1	androgen receptor	Nucleus	ligand-dependent nuclear receptor
ARNT2	aryl hydrocarbon receptor nuclear translocator 2, bHLHe1, Hif-2b, KIAA0307, mKIAA0307, WEDAS	aryl hydrocarbon receptor nuclear translocator 2	Nucleus	transcription regulator
ATG12	4931423H11Rik, A330058M13RIK, APG12, APG12L, Atg12l, autophagy related 12, FBR93, HAPG12	autophagy related 12	Cytoplasm	other
ATG3	2610016C12Rik, APG3, APG3-LIKE, APG3L, Atg3l, autophagy related 3, hAp3, PC3-96, PIG-1	autophagy related 3	Cytoplasm	enzyme
Atg5	autophagy related 5	autophagy related 5	Cytoplasm	other
ATP6AP1	16A, AC45, AI316502, ATP6IP1, ATP6S1, ATPase, H ⁺ transporting, lysosomal accessory protein 1	ATPase, H ⁺ transporting, lysosomal accessory protein 1	Cytoplasm	transporter
BAX	BAX ε, Bcl2-associated X, BCL2-associated X protein, BCL2L4	BCL2-associated X protein	Cytoplasm	transporter
BCL2	AW986256, B cell leukaemia/lymphoma 2, B cell leukemia/lymphoma 2, B-cell CLL/lymphoma 2, Bcl2 alpha	B-cell CLL/lymphoma 2	Cytoplasm	transporter

BECN1	4921513J16Rik, 5430417M23Rik, ATG6, Beclin 1, beclin 1, autophagy related, VPS30	beclin 1, autophagy related	Cytoplasm	other
beta-estradiol	(17)estradiol, (8R,9S,13S,14S,17S)-13-methyl-6,7,8,9,11,12,14,15,16		Other	chemical - endogenous mammalian
bisphenol A	2,2-(4,4'-dihydroxydiphenyl)propane, 2,2-bis(4-hydroxyphenyl)propane, 4'-bisphenol A, 4		Other	chemical - endogenous nonmammalian
bisphenol A diglycidyl ether	1675-54-3, 2,2'-((1-Methylethylidene)bis(4,1-phenyleneoxymethylene))bisoxirane, 2		Other	chemical reagent
C3	ACYLATION STIMULATING, AHUS5, AI255234, ARMD9, ASP, Complement c3	complement component 3	Extracellular Space	peptidase
Ca2+	14127-61-8, Ca+2, calcium, calcium cation, calcium citrate, calcium ion, calcium ions, calcium(2+)		Other	chemical - endogenous mammalian
CASP3	A830040C14Rik, AC-3, Caspase-3, CASPASE-3 p20, CC3, CPP-32, CPP32B, Ice-like cysteine protease	caspase 3	Cytoplasm	peptidase
CCL2	Ccl12, chemokine (C-C motif) ligand 12, chemokine (C-C motif) ligand 2	chemokine (C-C motif) ligand 2	Extracellular Space	cytokine
CCNE1	AW538188, CCNE, CycE1, CYCLE, cyclin E1, cyclin E, pCCNE1	cyclin E1	Nucleus	transcription regulator
CDH1	AA960649, ARC-1, cadherin 1, Cadherin E, CD324, CDHE, CSEIL, E-cadherin, ECAD, L-CAM	cadherin 1	Plasma Membrane	other
CDK4	CMM3, Crk3, cyclin-dependent kinase 4, LOC100362034, PSK-J3	cyclin-dependent kinase 4	Nucleus	kinase
CDKN1A	CAP20, CDKI, CDKN1, CDKNA1, CIP1, cyclin-dependent kinase inhibitor 1A	cyclin-dependent kinase inhibitor 1A (p21, Cip1)	Nucleus	kinase
CDKN1B	AA408329, AI843786, Cdk1b, CDKN4, cyclin-dependent kinase inhibitor 1B	cyclin-dependent kinase inhibitor 1B (p27, Kip1)	Nucleus	kinase

CITED2	AI835299, ASD8, Cbp/p300-interacting transactivator, with Glu/Asp-rich carboxy-terminal domain	Cbp/p300-interacting transactivator, with Glu/Asp rich carboxy-terminal domain, 2	Nucleus	transcription regulator
CLU	AAG4, AI893575, APO-J, CLI, CLUSTERIN, COMPLEMENT CYTOLYSIS INHIBITOR, D14Ucla3	clusterin	Cytoplasm	other
Collagen(s)	Collagen, Collagen(s)		Extracellular Space	complex
Creb	Cbp, Cyclic AMP response element binding		Nucleus	group
CTGF	AMPHIROGULIN, CCN2, connective tissue growth factor, CTGF isoform 1, CTGRP	connective tissue growth factor	Extracellular Space	growth factor
CTSD	CatD, cathepsin D, Cathepsin D, CD, CLN10, CPSD, EAI, HEL-S-130P, LOC196214	cathepsin D	Cytoplasm	peptidase
CTTN	1110020L01Rik, amplaxin, Cortactin, Ctnnb, EMS1	cortactin	Plasma Membrane	other
CXCL10	C7, chemokine (C-X-C motif) ligand 10, CRG-2, gamma-IFN INDUCIBLE EARLY RESPONSE	chemokine (C-X-C motif) ligand 10	Extracellular Space	cytokine
CXCL12	chemokine (C-X-C motif) ligand 12, CXCL12 isoform 1, hIRH, IRH, PBSF, SCYB12, SDF	chemokine (C-X-C motif) ligand 12	Extracellular Space	cytokine
Cyclin D	CycD, Cyclin D1		Nucleus	group
CYP	CYCLOSPORIN OXIDASE, Cyp1, Cytochrome P450, Ecod, MONOOXYGENASE		Other	group
CYP19A1	Ar, ArKO, ARO, ARO1, Aromatase, CPV1, CYAR, CYP19, Cyp19a, CYP19P1	cytochrome P450 family 19 subfamily A member 1	Cytoplasm	enzyme
D-glucose	(3R,4S,5S,6R)-6-(hydroxymethyl)oxane-2,3,4,5-tetrol, 2280-44-6, 50-99-7, biliary glucose, C6H12O6		Other	chemical - endogenous mammalian

DLG4	discs, large homolog 4 (Drosophila), Dlgh4, PSD-95, SAP-90, SAP90A	discs, large homolog 4 (Drosophila)	Plasma Membrane	kinase
dopamine	1,2-benzenediol, 4-(2-aminoethyl)-, 1,2-benzenediol, 4-(2-aminoethyl)- (9CI)		Other	chemical - endogenous mammalian
EGR1	A530045N19Rik, AT225, Early Growth Response 1, egr, ETR103, G0S30, Krox-1, KROX-24	early growth response 1	Nucleus	transcription regulator
ENO1	0610008I15, AL022784, EG433182, Eno1b, ENO1L1, ENOLASE, ENOLASE 1	enolase 1, (alpha)	Cytoplasm	enzyme
EREG	Ep, Epiregulin, EPR, ER	epiregulin	Extracellular Space	growth factor
ERK1/2	p42/44 mapk, P42/p44 erk, p42/p44 MAP KINASE, P42/p44 mapk, p44/p42 MAPK		Cytoplasm	group
ESR1	Alpha estrogen receptor, ER, Er alpha (46 kDa isoform), Er α (46 kDa isoform), ER-alpha, ER- α	estrogen receptor 1	Nucleus	ligand-dependent nuclear receptor
ESR2	beta ESTROGEN receptor, ER-BETA, ER- β , Erb, ERB2, ER[b], ESR-BETA, ESR- β , ESRB, ESTRB	estrogen receptor 2 (ER beta)	Nucleus	ligand-dependent nuclear receptor
estrogen receptor	ER, ESR, ESR1/2, esr1/esr2		Nucleus	group
FOS	AP-1, C-FOS, D12Rfj1, FBJ murine osteosarcoma viral oncogene homolog, FBJ osteosarcoma oncogene, p55	FBJ murine osteosarcoma viral oncogene homolog	Nucleus	transcription regulator
GHRH	GHRF, GRF, Grh, Growth hormone releasing hormone, INN	growth hormone releasing hormone	Extracellular Space	other
GNRHR	GH1, GnRh receptor, GnRH-I, GnRHR Catfish, GNRHR1, gonadotropin releasing hormone receptor	gonadotropin releasing hormone receptor	Plasma Membrane	G-protein coupled receptor

GPER1	6330420K13Rik, CEPR, CEPRL, CMKRL2, DRY12, FEG-1, G protein-coupled estrogen receptor 1	G protein-coupled estrogen receptor 1	Plasma Membrane	G-protein coupled receptor
GRIN1	GluN1, GluRdelta1, GluRzeta1, glutamate receptor, ionotropic, N-methyl D-aspartate 1, glutamate receptor	glutamate receptor, ionotropic, N-methyl D-aspartate 1	Plasma Membrane	ion channel
Gzmc	AI323531, B10, CCP2, Ctla-5, granzyme C, Grz c, LOC691695, Protease4, RGD1563645, Rnpk-4	granzyme C	Cytoplasm	peptidase
hemoglobin	haemoglobin, Hb		Other	complex
histamine	1H-imidazole-4-ethanamine, 2-(1H-imidazol-5-yl)ethanamine, 2-imidazol-4-ylethylamine, 51-45-6, 56-92-8		Other	chemical - endogenous mammalian
Histone h3	H3, H3.3, Histone H3B		Nucleus	group
Hmgb1	Ac2-008, high mobility group box 1, Hmg1, LOC100361707	high mobility group box 1	Nucleus	transcription regulator
HSP90AB1	AL022974, C81438, D6S182, heat shock protein 90 alpha (cytosolic), class B member 1, heat shock protein 90 α (cytosolic), class B member 1	heat shock protein 90kDa alpha family class B member 1	Cytoplasm	enzyme
HSP90B1	ECGP, endoplasmin, ERP99, FLJ22209, GP96, GRP94, heat shock protein 90, beta (Grp94), member 1	heat shock protein 90kDa beta family member 1	Cytoplasm	other
HSPA1A/HSPA1B	HEAT SHOCK 70-KDA, heat shock 70kD protein 1A, heat shock 70kD protein 1B (mapped)	heat shock protein family A (Hsp70) member 1A	Cytoplasm	enzyme
IGF1	C730016P09Rik, des(1-3)IGF-I, Des-(1-3)-igf1, IGF-I, IGF-I-smC, insulin like growth factor I	insulin like growth factor 1	Extracellular Space	growth factor
IGF1R	A330103N21RIK, CD221, D930020L01, hyft, IGF-1 receptor, IGF1R beta chain, Igflr beta isoform, Igflr β	insulin like growth factor 1 receptor	Plasma Membrane	transmembrane receptor

Igkv1-117	Cr1, Gm16797, IgK, Igk-V21, IgM, immunoglobulin kappa variable 1-117	immunoglobulin kappa variable 1-117	Other	other
IKBKB	AI132552, AIM-1, I kappa b beta, i kappa b kinase, I kappa b beta, Ikb Kinase Beta, Ikb Kinase beta	inhibitor of kappa light polypeptide gene enhancer in B-cells, kinase beta	Cytoplasm	kinase
IRS1	ENSMUSG00000022591, G972R, HIRS-1, insulin receptor substrate 1, IRS1IRM	insulin receptor substrate 1	Cytoplasm	enzyme
KAT5	AI839539, CPLA2, ESA1, HTATIP, HTATIP1, K(lysine) acetyltransferase 5, PLIP, TIP, Tip55, TIP60	K(lysine) acetyltransferase 5	Nucleus	transcription regulator
KDR	6130401C07, CD309, Flk, FLK1, Kinase Insert Domain, kinase insert domain protein receptor	kinase insert domain receptor	Plasma Membrane	kinase
KISS1	Eseptin, Gm28040, HH13, KiSS-1 metastasis-suppressor, Kisspeptin, Kisspeptin-1, metastatin	KiSS-1 metastasis-suppressor	Cytoplasm	other
LAMP2	CD107b, Lamp II, Lamp-2b, Lamp-2c, LAMPB, LGP110, LGP-B	lysosomal associated membrane protein 2	Plasma Membrane	enzyme
LBP	BPIFD2, Lipopolysaccharide binding, lipopolysaccharide binding protein, Ly88	lipopolysaccharide binding protein	Plasma Membrane	transporter
LCN2	24p3, Alpha2u globulin related, AW212229, HNL, LIPOCALIN 2, MSFI, NEUTROPHIL LIPOCALIN	lipocalin 2	Extracellular Space	transporter
LCP2	AI323664, BB161688, Lymphocyte cytosolic protein 2, SLP-76, twm	lymphocyte cytosolic protein 2	Cytoplasm	other
LEP	LEPD, Leptin, OB, obese, Obgrp, OBS	leptin	Extracellular Space	growth factor
Lh	LUTEINIZING HORMONE		Plasma Membrane	complex
LHCGR	Gpcr19-rs1, HHG, LCGR, LGR2, LH receptor, LH-R, LH/CG-R, LHRHR, LSH-R	luteinizing hormone/choriogonadotropin receptor	Plasma Membrane	G-protein coupled receptor

lipid	lipids		Other	chemical - endogenous mammalian
LYZ	AI326280, Lys, Lysm, lysozyme, lysozyme 1, lysozyme 2, Lysozyme M, Lysozyme p	lysozyme	Extracellular Space	enzyme
malondialdehyde	1,3-propanedialdehyde, 1,3-propanedione, 542-78-9, C3H4O2, malonaldehyde		Other	chemical toxicant
MAOA	1110061B18Rik, AA407771, Mao, Monoamine Oxidase A, NC61C12.R1	monoamine oxidase A	Cytoplasm	enzyme
MAP1LC3A	1010001H21Rik, 4922501H04Rik, ATG8E, LC3, Lc3-I, LC3A, MAP LC3, MAP1ALC3, MAP1BLC3	microtubule associated protein 1 light chain 3 alpha	Cytoplasm	other
MAP1LC3B	1010001C15Rik, Atg8, ATG8F, Jh11, Lc3, lc3-II, LC3B, MAP1A/1BLC3, MAP1LC3, MAP1LC3B-a	microtubule associated protein 1 light chain 3 beta	Cytoplasm	other
MAPK8	AI849689, C-JUN N-TERMINAL KINASE1, JNK, JNK-46, JNK1, JNK1A2, JNK21B1/2	mitogen-activated protein kinase 8	Cytoplasm	kinase
Mcpt1	AV080368, mast cell protease 1, mast cell protease 1-like 3, mast cell protease 2	mast cell protease 1	Other	peptidase
MECP2	1500041B07Rik, AUTSX3, D630021H01RIK, Mbd5, Mecp2 Beta, Mecp2 β , methyl-CpG binding protein 2	methyl-CpG binding protein 2	Nucleus	transcription regulator
mir-146	hsa-mir-146, hsa-mir-146a, HSA-MIR-146B, microRNA 146, microRNA 146a, microRNA 146b, MIR146A, MIR146B	microRNA 146a	Cytoplasm	microRNA
Mmp	Matrix Metalloproteinase, MATRIX METALLOPROTEINASES, mmp (Matrix Metalloproteinase)		Nucleus	group
MMP9	AW743869, B/MMP9, CLG4B, COLLAGENASE type IV, Gelatinase B, GELB, Gl 92-kda	matrix metallopeptidase 9	Extracellular Space	peptidase

NCOA1	bHLHe42, bHLHe74, F-SRC-1, KAT13A, NCOA, nuclear receptor coactivator 1, RIP160, SRC-1	nuclear receptor coactivator 1	Nucleus	transcription regulator
NCOA2	bHLHe75, D1Ert433e, GRIP-1, KAT13C, nuclear receptor coactivator 2, SRC-2, TIF-2	nuclear receptor coactivator 2	Nucleus	transcription regulator
NFE2L2	BM974200, HEBP1, NRF2, nuclear factor, erythroid 2-like 2, nuclear factor, erythroid derived 2	nuclear factor, erythroid 2 like 2	Nucleus	transcription regulator
nitric oxide	10102-43-9, Amidogen, oxo-, EDRF, inhaled nitric oxide, INOmax, Mononitrogen monoxide		Other	chemical - endogenous mammalian
NOS3	2310065A03Rik, ECNOS, eNOS, nitric oxide synthase 3, nitric oxide synthase 3, endothelial cell, nNOS	nitric oxide synthase 3	Cytoplasm	enzyme
NR3C1	GCCR, GCR, GCR alpha, GCR α , GCRST, glucocorticoid receptor, Glucocorticoid receptor α -2	nuclear receptor subfamily 3 group C member 1	Nucleus	ligand-dependent nuclear receptor
NR4A1	Gfrp, GFRP1, Hbr-1, HMR, Hormone receptor, N10, NAK-1, NGFI-B, NP10	nuclear receptor subfamily 4 group A member 1	Nucleus	ligand-dependent nuclear receptor
NR4A2	HZF-3, NOT, nuclear receptor subfamily 4 group A member 2, nuclear receptor subfamily 4, group A	nuclear receptor subfamily 4 group A member 2	Nucleus	ligand-dependent nuclear receptor
NR4A3	AI573420, CHN, CSMF, MINOR, NOR-1, NOR-2, nuclear receptor subfamily 4 group A member 3	nuclear receptor subfamily 4 group A member 3	Nucleus	ligand-dependent nuclear receptor

PAX6	1500038E17Rik, AEY11, AN, AN2, D11S812E, Dey, FVH1, Gsfaey11, MGDA, paired box 6	paired box 6	Nucleus	transcription regulator
PCNA	ATLD2, PcnA/cyclin, PCNAR, proliferating cell nuclear antigen	proliferating cell nuclear antigen	Nucleus	enzyme
PDIA2	1810041F13RIK, AI661267, PDA2, PDI, PDIP, Pdipl, PDIR, protein disulfide isomerase associated 2	protein disulfide isomerase family A member 2	Cytoplasm	enzyme
PEBP1	HCNP, HCNPPp, HEL-210, HEL-S-34, HEL-S-96, LOC100506570, PBP, Pbp1, Pbpr, PEBP	phosphatidylethanolamine binding protein 1	Cytoplasm	other
PGR	9930019P03Rik, BB114106, ENSMUSG00000074510, LOC360433, NR3C3, Pgrb, PR, PR beta, PR β	progesterone receptor	Nucleus	ligand-dependent nuclear receptor
phosphorus	7723-14-0, P, phosphorous, phosphorus		Other	chemical reagent
PIK3R1	AA414921, AGM7, GRB1, IMD36, p85, p85 subunit of PI3-kinase, P85 α , p85-alpha	phosphoinositide-3-kinase regulatory subunit 1	Cytoplasm	kinase
PKM	AA414905, AL024370, AL024424, CTHBP, HEL-S-30, M2-Pk, OIP3, Pk-2, PK3, PKM12, PKM2	pyruvate kinase, muscle	Cytoplasm	kinase
POU5F1	NF-A3, OCT3, OCT3/4, OCT4, OTF-3, Otf3-rs7, Otf3g, OTF4, POU class 5 homeobox 1	POU class 5 homeobox 1	Nucleus	transcription regulator
PPARG	CIMT1, GLM1, NR1C3, peroxisome proliferator activator receptor γ	peroxisome proliferator-activated receptor gamma	Nucleus	ligand-dependent nuclear receptor
PRDX2	AL022839, Band-8, HEL-S-2a, NKEF-B, Peroxiredoxin 2, PRP, PRX II, PRX2, PTX1, TDPX1, TDX1	peroxiredoxin 2	Cytoplasm	enzyme

PRKDC	AI326420, AU019811, DNA-DEPENDENT protein KINASE, DNA-PKcs, DNAPDcs, DNAPK, DNPK1	protein kinase, DNA-activated, catalytic polypeptide	Nucleus	kinase
PRL	AV290867, Dlt, GHA1, Prl1a1, PRLB, PRLSD1, Prol, prolactin, RATPRLSD1, RNPROL	prolactin	Extracellular Space	cytokine
progesterone	(8S,9S,10R,13S,14S,17S)-17-acetyl-10,13-dimethyl-1,2,6,7,8,9,11,12,14,15,16		Other	chemical - endogenous mammalian
Proinsulin	Insulin		Other	group
PTGS2	COX-2, CYCLO-OXYGENASE 2, GRIPGHS, hCox-2, INDUCIBLE CYCLOOXYGENASE, MTCO2	prostaglandin-endoperoxide synthase 2 (prostaglandin G/H synthase and cyclooxygenase)	Cytoplasm	enzyme
reactive oxygen species	oxygen and reactive oxygen species, reactive oxygen metabolites, ROI, ROS		Other	chemical toxicant
SKIL	9130011J04RIK, SKI-like, SKI-like proto-oncogene, SKIR, SNO, SnoA, SnoN	SKI-like proto-oncogene	Nucleus	transcription regulator
SLC22A6	HOAT1, mOat1, NKT, OAT1, Orct11, PAHT, ROAT1, solute carrier family 22 (organic anion transporter)	solute carrier family 22 (organic anion transporter), member 6	Plasma Membrane	transporter
SLC2A4	Gef, GLUT4, solute carrier family 2 (facilitated glucose transporter), member 4	solute carrier family 2 (facilitated glucose transporter), member 4	Plasma Membrane	transporter
SMAD3	AU022421, DKFZP586N0721, hMAD-3, HSPC193, HsT17436, JV15-2, LDS1C, LDS3, MAD3, MADH3	SMAD family member 3	Nucleus	transcription regulator
SOX2	ANOP3, lcc, LOC100912162, MCOPS3, RGD1565646, SRY (sex determining region Y)-box 2	SRY-box 2	Nucleus	transcription regulator
STAT3	1110034C02Rik, acute-phase response factor, ADMIO, APRF, AW109958, HIES, MGC16063	signal transducer and activator of transcription 3 (acute-phase response factor)	Nucleus	transcription regulator

STK17B	3110009A03Rik, AI120141, DRAK2, serine/threonine kinase 17b	serine/threonine kinase 17b	Nucleus	kinase
superoxide	11062-77-4, O ₂ ⁻ , oxygen peroxide, superoxide, superoxide anion, superoxide ion, superoxide radical		Other	chemical - endogenous mammalian
tannic acid	1401-55-4, C ₂₆ H ₂₀ O ₁₈ , gallotannic acid, gallotannin, tannic acid		Other	chemical toxicant
testosterone	(8R,9S,10R,13S,14S,17S)-17-hydroxy-10,13-dimethyl-1,2,6,7,8,9,11,12,14,15,16		Other	chemical - endogenous mammalian
TFF1	BCE1, D21S21, HP1.A, HPS2, NEPHROCALCIN, pNR-2, PS2, TIFF1, trefoil factor 1	trefoil factor 1	Extracellular Space	other
TGFB3	ARVD, ARVD1, PTGF β , RNHF, TGF-beta, TGF-beta-3, TGF- β , TGF- β -3	transforming growth factor beta 3	Extracellular Space	growth factor
THRB	C-ERBA-2, C-ERBA-BETA, C-ERBA- β , ERBA2, GRTH, NR1A2, PRTH, RATT3REC	thyroid hormone receptor, beta	Nucleus	ligand-dependent nuclear receptor
thyroid hormone			Other	chemical - endogenous mammalian
TP53	bb1, BCC7, bfy, bhy, LFS1, p44, P53, P53 cellular tumour antigen, p53 tumor suppressor	tumor protein p53	Nucleus	transcription regulator
triacylglycerol	C ₆ H ₅ O ₆ R ₃ , TG, triacylglyceride, triacylglycerols, triglyacylglycerol, triglyceride, triglycerides, triglycerol		Other	chemical - endogenous mammalian

Supplementary Table 16: BPA and Organismal Death

Symbol	Synonym(s)	Entrez Gene Name	Location	Family
ADIPOQ	ACDC, ACRP30, Ad, adipo, Adipocyte complement related protein of 30 kda, ADIPOD	adiponectin, C1Q and collagen domain containing	Extracellular Space	other
Akt	AKT1/2/3, B/Akt, Pkb, RAC-PK		Cytoplasm	group
ALDH5A1	6330403E24RIK, Ahd-1, aldehyde dehydrogenase 5 family member A1	aldehyde dehydrogenase 5 family member A1	Cytoplasm	enzyme
Alp	3.1.3.1, alkaline phenyl phosphatase, Alkaline Phosphatase, alkaline phosphohydrolase		Other	group
APOB	Aa1064, Ac1-060, AI315052, APOB-29, apoB-48, apoB-100, APOLIPOPROTEIN B, FLDB, LDLCQ4	apolipoprotein B	Extracellular Space	transporter
AR	AIS, Andr, androgen receptor, AR8, AW320017, DHTR, HUMARA, HYSP1, KD, NR3C4, SBMA	androgen receptor	Nucleus	ligand-dependent nuclear receptor
ARNT2	aryl hydrocarbon receptor nuclear translocator 2, bHLHe1, Hif-2b, KIAA0307, mKIAA0307, WEDAS	aryl hydrocarbon receptor nuclear translocator 2	Nucleus	transcription regulator
ATG3	2610016C12Rik, APG3, APG3-LIKE, APG3L, Atg3l, autophagy related 3, hApg3, PC3-96, PIG-1	autophagy related 3	Cytoplasm	enzyme
ATP6AP1	16A, AC45, AI316502, ATP6IP1, ATP6S1, ATPase, H ⁺ transporting, lysosomal accessory protein 1	ATPase, H ⁺ transporting, lysosomal accessory protein 1	Cytoplasm	transporter
BAX	BAX ε, Bcl2-associated X, BCL2-associated X protein, BCL2L4	BCL2-associated X protein	Cytoplasm	transporter
BCL2	AW986256, B cell leukaemia/lymphoma 2, B cell	B-cell CLL/lymphoma 2	Cytoplasm	transporter

	leukemia/lymphoma 2, B-cell CLL/lymphoma 2			
BECN1	4921513J16Rik, 5430417M23Rik, ATG6, Beclin 1, beclin 1, autophagy related, VPS30	beclin 1, autophagy related	Cytoplasm	other
bisphenol A	2,2-(4,4'-dihydroxydiphenyl)propane, 2,2-bis(4-hydroxyphenyl)propane, 4'-bisphenol A, 4		Other	chemical - endogenous nonmammalian
bisphenol A diglycidyl ether	1675-54-3, 2,2'-((1-Methylethylidene)bis(4,1-phenyleneoxymethylene))bisoxirane, 2		Other	chemical reagent
C3	ACYLATION STIMULATING, AHUS5, AI255234, ARMD9, ASP, Complement c3	complement component 3	Extracellular Space	peptidase
Ca2+	14127-61-8, Ca+2, calcium, calcium cation, calcium citrate, calcium ion, calcium ions, calcium(2+)		Other	chemical - endogenous mammalian
CASP3	A830040C14Rik, AC-3, Caspase-3, CASPASE-3 p20, CC3, CPP-32, CPP32B	caspase 3	Cytoplasm	peptidase
CCL2	Ccl12, chemokine (C-C motif) ligand 12, chemokine (C-C motif) ligand 2	chemokine (C-C motif) ligand 2	Extracellular Space	cytokine
CCNE1	AW538188, CCNE, CycE1, CYCLE, cyclin E, cyclin E1, pCCNE1	cyclin E1	Nucleus	transcription regulator
CDH1	AA960649, ARC-1, cadherin 1, Cadherin E, CD324, CDHE, CSEIL, E-cadherin, ECAD	cadherin 1	Plasma Membrane	other
CDK4	CMM3, Crk3, cyclin-dependent kinase 4, LOC100362034, PSK-J3	cyclin-dependent kinase 4	Nucleus	kinase
CDKN1A	CAP20, CDKI, CDKN1, CDKNA1, CIP1, cyclin-dependent kinase inhibitor 1A	cyclin-dependent kinase inhibitor 1A (p21, Cip1)	Nucleus	kinase

CDKN1B	AA408329, AI843786, Cdk1b, CDKN4, cyclin-dependent kinase inhibitor 1B	cyclin-dependent kinase inhibitor 1B (p27, Kip1)	Nucleus	kinase
CITED2	AI835299, ASD8, Cbp/p300-interacting transactivator, with Glu/Asp-rich carboxy-terminal domain	Cbp/p300-interacting transactivator, with Glu/Asp rich carboxy-terminal domain, 2	Nucleus	transcription regulator
Collagen(s)	Collagen, Collagen(s)		Extracellular Space	complex
CTGF	AMPHIROGULIN, CCN2, connective tissue growth factor, CTGF isoform 1, CTGRP	connective tissue growth factor	Extracellular Space	growth factor
CTSD	CatD, cathepsin D, Cathepsin D, CD, CLN10, CPSD, EAI, HEL-S-130P, LOC196214	cathepsin D	Cytoplasm	peptidase
CTTN	1110020L01Rik, amplaxin, Cortactin, Ctnnb, EMS1	cortactin	Plasma Membrane	other
CXCL10	C7, chemokine (C-X-C motif) ligand 10, CRG-2, gamma-IFN INDUCIBLE EARLY RESPONSE	chemokine (C-X-C motif) ligand 10	Extracellular Space	cytokine
CXCL12	chemokine (C-X-C motif) ligand 12, CXCL12 isoform 1, hIRH, IRH, PBSF, SCYB12, SDF	chemokine (C-X-C motif) ligand 12	Extracellular Space	cytokine
D-glucose	(3R,4S,5S,6R)-6-(hydroxymethyl)oxane-2,3,4,5-tetrol, 2280-44-6, 50-99-7, biliary glucose		Other	chemical - endogenous mammalian
dopamine	1,2-benzenediol, 4-(2-aminoethyl)-, 1,2-benzenediol, 4-(2-aminoethyl)- (9CI)		Other	chemical - endogenous mammalian
EREG	Ep, Epiregulin, EPR, ER	epiregulin	Extracellular Space	growth factor
ESR1	Alpha estrogen receptor, ER, Er alpha (46 kDa isoform), Er α (46 kDa isoform), ER-alpha, ER- α	estrogen receptor 1	Nucleus	ligand-dependent

				nuclear receptor
ESR2	beta ESTROGEN receptor, ER-BETA, ER- β , Erb, ERB2, ER[b], ESR-BETA, ESR- β , ESRB	estrogen receptor 2 (ER beta)	Nucleus	ligand-dependent nuclear receptor
ESRRG	Err γ , ERR3, Errg, ERRG2, ERRgamma, estrogen-related receptor gamma, estrogen-related receptor- γ	estrogen related receptor gamma	Nucleus	ligand-dependent nuclear receptor
estrogen receptor	ER, ESR, ESR1/2, esr1/esr2		Nucleus	group
FOS	AP-1, C-FOS, D12Rfj1, FBJ murine osteosarcoma viral oncogene homolog, FBJ osteosarcoma oncogene, p55	FBJ murine osteosarcoma viral oncogene homolog	Nucleus	transcription regulator
GRIN1	GluN1, GluRdelta1, GluRzeta1, glutamate receptor, ionotropic, N-methyl D-aspartate 1	glutamate receptor, ionotropic, N-methyl D-aspartate 1	Plasma Membrane	ion channel
hemoglobin	haemoglobin, Hb		Other	complex
histamine	1H-imidazole-4-ethanamine, 2-(1H-imidazol-5-yl)ethanamine, 2-imidazol-4-ylethylamine		Other	chemical - endogenous mammalian
Histone h3	H3, H3.3, Histone H3B		Nucleus	group
Hmgb1	Ac2-008, high mobility group box 1, Hmg1, LOC100361707	high mobility group box 1	Nucleus	transcription regulator
HSP90AB1	AL022974, C81438, D6S182, heat shock protein 90 alpha (cytosolic), class B member 1	heat shock protein 90kDa alpha family class B member 1	Cytoplasm	enzyme
HSP90B1	ECGP, endoplasmin, ERP99, FLJ22209, GP96, GRP94, heat shock protein 90, beta (Grp94), member 1	heat shock protein 90kDa beta family member 1	Cytoplasm	other

HSPA1A/HSPA1B	HEAT SHOCK 70-KDA, heat shock 70kD protein 1A, heat shock 70kD protein 1B (mapped)	heat shock protein family A (Hsp70) member 1A	Cytoplasm	enzyme
IGF1	C730016P09Rik, des(1-3)IGF-I, Des-(1-3)-igf1, IGF-I, IGF-I-smC, insulin like growth factor I	insulin like growth factor 1	Extracellular Space	growth factor
IGF1R	A330103N21RIK, CD221, D930020L01, hyft, IGF-1 receptor, IGF1R beta chain, Igflr beta isoform	insulin like growth factor 1 receptor	Plasma Membrane	transmembrane receptor
IKBKB	AI132552, AIM-1, I kappa b beta, i kappa b kinase, I kappa b beta, Ikb Kinase Beta, Ikb Kinase beta, IKK-2	inhibitor of kappa light polypeptide gene enhancer in B-cells, kinase beta	Cytoplasm	kinase
KAT5	AI839539, CPLA2, ESA1, HTATIP, HTATIP1, K(lysine) acetyltransferase 5, PLIP, TIP, Tip55	K(lysine) acetyltransferase 5	Nucleus	transcription regulator
KDR	6130401C07, CD309, Flk, FLK1, Kinase Insert Domain, kinase insert domain protein receptor	kinase insert domain receptor	Plasma Membrane	kinase
LAMP2	CD107b, Lamp II, Lamp-2b, Lamp-2c, LAMPB, LGP-B, LGP110	lysosomal associated membrane protein 2	Plasma Membrane	enzyme
LBP	BPIFD2, Lipopolysaccharide binding, lipopolysaccharide binding protein, Ly88	lipopolysaccharide binding protein	Plasma Membrane	transporter
LCN2	24p3, Alpha2u globulin related, AW212229, HNL, LIPOCALIN 2, MSFI	lipocalin 2	Extracellular Space	transporter
LCP2	AI323664, BB161688, Lymphocyte cytosolic protein 2, SLP-76, twm	lymphocyte cytosolic protein 2	Cytoplasm	other
LEP	LEPD, Leptin, OB, obese, Obgrp, OBS	leptin	Extracellular Space	growth factor
LYZ	AI326280, Lys, Lysm, lysozyme, lysozyme 1, lysozyme 2, Lysozyme M, Lysozyme p, Lysz, Lyz1	lysozyme	Extracellular Space	enzyme

malondialdehyde	1,3-propanedialdehyde, 1,3-propanedione, 542-78-9, C3H4O2, malonaldehyde, malonic dialdehyde		Other	chemical toxicant
MAP1LC3B	1010001C15Rik, Atg8, ATG8F, Jhl1, Lc3, lc3-II, LC3B, MAP1A/1BLC3, MAP1LC3, MAP1LC3B-a	microtubule associated protein 1 light chain 3 beta	Cytoplasm	other
MAPK8	AI849689, C-JUN N-TERMINAL KINASE1, JNK, JNK-46, JNK1, JNK1A2, JNK21B1/2	mitogen-activated protein kinase 8	Cytoplasm	kinase
MECP2	1500041B07Rik, AUTSX3, D630021H01RIK, Mbd5, Mecp2 Beta, Mecp2 β	methyl-CpG binding protein 2	Nucleus	transcription regulator
mir-146	hsa-mir-146, hsa-mir-146a, HSA-MIR-146B, microRNA 146, microRNA 146a, microRNA 146b	microRNA 146a	Cytoplasm	microRNA
MMP9	AW743869, B/MMP9, CLG4B, COLLAGENASE type IV, Gelatinase B, GELB, GI 92-kda, MANDP2	matrix metalloproteinase 9	Extracellular Space	peptidase
NCOA1	bHLHe42, bHLHe74, F-SRC-1, KAT13A, NCOA, nuclear receptor coactivator 1, RIP160, SRC-1	nuclear receptor coactivator 1	Nucleus	transcription regulator
NCOA2	bHLHe75, D1Ert433e, GRIP-1, KAT13C, nuclear receptor coactivator 2, SRC-2, TIF-2	nuclear receptor coactivator 2	Nucleus	transcription regulator
NFE2L2	BM974200, HEBP1, NRF2, nuclear factor, erythroid 2-like 2, nuclear factor, erythroid derived 2, like 2	nuclear factor, erythroid 2 like 2	Nucleus	transcription regulator
nitric oxide	10102-43-9, Amidogen, oxo-, EDRF, inhaled nitric oxide, INOmax, Mononitrogen monoxide		Other	chemical - endogenous mammalian
NOS3	2310065A03Rik, ECNOS, eNOS, nitric oxide synthase 3, nitric oxide synthase 3, endothelial cell, nNOS	nitric oxide synthase 3	Cytoplasm	enzyme

NR3C1	GCCR, GCR, GCR alpha, GCR α , GCRST, glucocorticoid receptor, Glucocorticoid receptor α -2, GR, Gr alpha	nuclear receptor subfamily 3 group C member 1	Nucleus	ligand-dependent nuclear receptor
NR4A2	HZF-3, NOT, nuclear receptor subfamily 4 group A member 2, nuclear receptor subfamily 4, group A	nuclear receptor subfamily 4 group A member 2	Nucleus	ligand-dependent nuclear receptor
NR4A3	AI573420, CHN, CSMF, MINOR, NOR-1, NOR-2, nuclear receptor subfamily 4 group A member 3	nuclear receptor subfamily 4 group A member 3	Nucleus	ligand-dependent nuclear receptor
OXT	OP, OT, OT-NPI, OXT-NPI, Oxy, oxytocin, Oxytocin-neurophysin i	oxytocin/neurophysin I prepropeptide	Extracellular Space	other
PCNA	ATLD2, Pcn/cyclin, PCNAR, proliferating cell nuclear antigen	proliferating cell nuclear antigen	Nucleus	enzyme
PGR	9930019P03Rik, BB114106, ENSMUSG00000074510, LOC360433, NR3C3, Pgrb, PR, PR beta	progesterone receptor	Nucleus	ligand-dependent nuclear receptor
phosphorus	7723-14-0, P, phosphorous, phosphorus		Other	chemical reagent
PIK3R1	AA414921, AGM7, GRB1, IMD36, p85, p85 subunit of PI3-kinase, P85 α , p85-alpha	phosphoinositide-3-kinase regulatory subunit 1	Cytoplasm	kinase
PKM	AA414905, AL024370, AL024424, CTHBP, HEL-S-30, M2-Pk, OIP3, Pk-2, PK3, PKM12, PKM2	pyruvate kinase, muscle	Cytoplasm	kinase
PLN	CMD1P, CMH18, Phospholamban, PLB, Plm	phospholamban	Cytoplasm	transporter
PPARG	CIMT1, GLM1, NR1C3, peroxisome proliferator activator receptor γ	peroxisome proliferator-activated receptor gamma	Nucleus	ligand-dependent

				nuclear receptor
PRKDC	AI326420, AU019811, DNA-DEPENDENT protein KINASE, DNA-PKcs, DNAPDcs, DNAPK, DNPK1	protein kinase, DNA-activated, catalytic polypeptide	Nucleus	kinase
progesterone	(8S,9S,10R,13S,14S,17S)-17-acetyl-10,13-dimethyl-1,2,6,7,8,9,11,12,14,15,16		Other	chemical - endogenous mammalian
PTGS2	COX-2, CYCLO-OXYGENASE 2, GRIPGHS, hCox-2, INDUCIBLE CYCLOOXYGENASE, MTCO2, PES-2	prostaglandin-endoperoxide synthase 2 (prostaglandin G/H synthase and cyclooxygenase)	Cytoplasm	enzyme
SKIL	9130011J04RIK, SKI-like, SKI-like proto-oncogene, SKIR, SNO, SnoA, SnoN	SKI-like proto-oncogene	Nucleus	transcription regulator
SLC12A5	KCC2, Kcc2b, Kcc3, mKIAA1176, solute carrier family 12 (potassium-chloride transporter)	solute carrier family 12 (potassium/chloride transporter), member 5	Plasma Membrane	transporter
SLC2A4	Gef, GLUT4, solute carrier family 2 (facilitated glucose transporter), member 4	solute carrier family 2 (facilitated glucose transporter), member 4	Plasma Membrane	transporter
SMAD3	AU022421, DKFZP586N0721, hMAD-3, HSPC193, HsT17436, JV15-2, LDS1C, LDS3, MAD3	SMAD family member 3	Nucleus	transcription regulator
STAT3	1110034C02Rik, acute-phase response factor, ADMIO, APRF, AW109958, HIES, MGC16063	signal transducer and activator of transcription 3 (acute-phase response factor)	Nucleus	transcription regulator
SULT1A1	AI266890, ASTIV, HAST1/HAST2, Mx-ST, P-PST, PST, PST-1, ST1A1, ST1A3, Stm, STP, STP1	sulfotransferase family 1A member 1	Cytoplasm	enzyme
superoxide	11062-77-4, O2-, oxygen peroxide, superoxide, superoxide anion, superoxide ion, superoxide radical		Other	chemical - endogenous mammalian

tannic acid	1401-55-4, C ₂₆ H ₂₀ O ₁₈ , gallotannic acid, gallotannin, tannic acid		Other	chemical toxicant
testosterone	(8R,9S,10R,13S,14S,17S)-17-hydroxy-10,13-dimethyl-1,2,6,7,8,9,11,12,14,15,16		Other	chemical - endogenous mammalian
TGFB3	ARVD, ARVD1, PTGF β , RNHF, TGF-beta, TGF-beta-3, TGF- β , TGF- β -3	transforming growth factor beta 3	Extracellular Space	growth factor
THRB	C-ERBA-2, C-ERBA-BETA, C-ERBA- β , ERBA2, GRTH, NR1A2, PRTH, RATT3REC, T3Rbeta, T3rec	thyroid hormone receptor, beta	Nucleus	ligand-dependent nuclear receptor
TP53	bbl, BCC7, bfy, bhy, LFS1, p44, P53, P53 cellular tumour antigen, p53 tumor suppressor	tumor protein p53	Nucleus	transcription regulator
TPH2	ADHD7, AU043594, NTPH, Tryptophan hydroxylase 2	tryptophan hydroxylase 2	Plasma Membrane	enzyme

Supplementary Table 17: BPA and Cancer

Symbol	Synonym(s)	Entrez Gene Name	Location	Family
ADIPOQ	ACDC, ACRP30, Ad, adipo, Adipocyte complement related protein of 30 kda, ADIPOD, ADIPONECTIN	adiponectin, C1Q and collagen domain containing	Extracellular Space	other
Akt	AKT1/2/3, B/Akt, Pkb, RAC-PK		Cytoplasm	group
Alp	3.1.3.1, alkaline phenyl phosphatase, Alkaline Phosphatase, alkaline phosphohydrolase		Other	group
APOB	Aa1064, Ac1-060, AI315052, apoB-100, APOB-29, apoB-48, APOLIPOPROTEIN B, FLDB, LDLCQ4	apolipoprotein B	Extracellular Space	transporter
AR	AIS, Andr, androgen receptor, AR8, AW320017, DHTR, HUMARA, HYSPI, KD, NR3C4, SBMA, SMAX1	androgen receptor	Nucleus	ligand-dependent nuclear receptor
ARNT2	aryl hydrocarbon receptor nuclear translocator 2, bHLHe1, Hif-2b, KIAA0307, mKIAA0307, WEDAS	aryl hydrocarbon receptor nuclear translocator 2	Nucleus	transcription regulator
BAX	BAX ε, Bcl2-associated X, BCL2-associated X protein, BCL2L4	BCL2-associated X protein	Cytoplasm	transporter
BCL2	AW986256, B cell leukaemia/lymphoma 2, B cell leukemia/lymphoma 2, B-cell CLL/lymphoma 2	B-cell CLL/lymphoma 2	Cytoplasm	transporter
BECN1	4921513J16Rik, 5430417M23Rik, ATG6, Beclin 1, beclin 1, autophagy related, VPS30	beclin 1, autophagy related	Cytoplasm	other
beta-estradiol	(17)estradiol, (8R,9S,13S,14S,17S)-13-methyl-6,7,8,9,11,12,14,15,16		Other	chemical - endogenous mammalian

bisphenol A	2,2-(4,4'-dihydroxydiphenyl)propane, 2,2-bis(4-hydroxyphenyl)propane, 4'-bisphenol A, 4		Other	chemical - endogenous nonmammalian
bisphenol A diglycidyl ether	1675-54-3, 2,2'-((1-Methylethylidene)bis(4,1-phenyleneoxymethylene))bisoxirane, 2,		Other	chemical reagent
C3	ACYLATION STIMULATING, AHUS5, AI255234, ARMD9, ASP, Complement c3	complement component 3	Extracellular Space	peptidase
Ca ²⁺	14127-61-8, Ca ²⁺ , calcium, calcium cation, calcium citrate, calcium ion, calcium ions, calcium(2+)		Other	chemical - endogenous mammalian
CASP3	A830040C14Rik, AC-3, Caspase-3, CASPASE-3 p20, CC3, CPP-32, CPP32B, Ice-like cysteine protease	caspase 3	Cytoplasm	peptidase
CCL2	Ccl12, chemokine (C-C motif) ligand 12, chemokine (C-C motif) ligand 2	chemokine (C-C motif) ligand 2	Extracellular Space	cytokine
CCNE1	AW538188, CCNE, CycE1, CYCLE, cyclin E, cyclin E1, pCCNE1	cyclin E1	Nucleus	transcription regulator
CDH1	AA960649, ARC-1, cadherin 1, Cadherin E, CD324, CDHE, CSEIL, E-cadherin, ECAD	cadherin 1	Plasma Membrane	other
CDK4	CMM3, Crk3, cyclin-dependent kinase 4, LOC100362034, PSK-J3	cyclin-dependent kinase 4	Nucleus	kinase
CDKN1A	CAP20, CDKI, CDKN1, CDKNA1, CIP1, cyclin-dependent kinase inhibitor 1A	cyclin-dependent kinase inhibitor 1A (p21, Cip1)	Nucleus	kinase
CDKN1B	AA408329, AI843786, Cdk1b, CDKN4, cyclin-dependent kinase inhibitor 1B	cyclin-dependent kinase inhibitor 1B (p27, Kip1)	Nucleus	kinase
CFD	ADIPSIN, ADN, complement factor D (adipsin), DF, EVE, Factor D, PFD	complement factor D (adipsin)	Extracellular Space	peptidase

CLU	AAG4, AI893575, APO-J, CLI, CLUSTERIN, COMPLEMENT CYTOLYSIS INHIBITOR, D14Ucla3	clusterin	Cytoplasm	other
Collagen(s)	Collagen, Collagen(s)		Extracellular Space	complex
Creb	Cbp, Cyclic AMP response element binding		Nucleus	group
CTGF	AMPHIROGULIN, CCN2, connective tissue growth factor, CTGF isoform 1, CTGRP	connective tissue growth factor	Extracellular Space	growth factor
CTSD	CatD, cathepsin D, Cathespin D, CD, CLN10, CPSD, EAI, HEL-S-130P, LOC196214	cathepsin D	Cytoplasm	peptidase
CTTN	1110020L01Rik, amplaxin, Cortactin, Ctnnb, EMS1	cortactin	Plasma Membrane	other
CXCL10	C7, chemokine (C-X-C motif) ligand 10, CRG-2, gamma-IFN INDUCIBLE EARLY RESPONSE	chemokine (C-X-C motif) ligand 10	Extracellular Space	cytokine
CXCL12	chemokine (C-X-C motif) ligand 12, CXCL12 isoform 1, hIRH, IRH, PBSF, SCYB12, SDF, SDF-1alpha	chemokine (C-X-C motif) ligand 12	Extracellular Space	cytokine
Cyclin D	CycD, Cyclin D1		Nucleus	group
CYP19A1	Ar, ArKO, ARO, ARO1, Aromatase, CPV1, CYAR, CYP19, Cyp19a, CYP19P1, CYPXIX	cytochrome P450 family 19 subfamily A member 1	Cytoplasm	enzyme
D-glucose	(3R,4S,5S,6R)-6-(hydroxymethyl)oxane-2,3,4,5-tetrol, 2280-44-6, 50-99-7, biliary glucose, C6H12O6		Other	chemical - endogenous mammalian
dopamine	1,2-benzenediol, 4-(2-aminoethyl)-, 1,2-benzenediol, 4-(2-aminoethyl)-(9CI)		Other	chemical - endogenous mammalian

EGR1	A530045N19Rik, AT225, Early Growth Response 1, egr, ETR103, G0S30, Krox-1, KROX-24, Ngfl	early growth response 1	Nucleus	transcription regulator
ENO1	0610008I15, AL022784, EG433182, Eno1b, ENO1L1, ENOLASE, ENOLASE 1, Enolase 1 alpha	enolase 1, (alpha)	Cytoplasm	enzyme
ENO2	AI837106, D6Ertd375e, enolase 2 (gamma, neuronal), enolase 2 (γ , neuronal), enolase 2, gamma neuronal	enolase 2 (gamma, neuronal)	Cytoplasm	enzyme
EPHA8	AW047546, EEK, EK3, EPH receptor A8, HEK3, LOC60589, mKIAA1459	EPH receptor A8	Plasma Membrane	kinase
ERK1/2	p42/44 mapk, P42/p44 erk, p42/p44 MAP KINASE, P42/p44 mapk, p44/p42 MAPK		Cytoplasm	group
ESR1	Alpha estrogen receptor, ER, Er alpha (46 kDa isoform), Er α (46 kDa isoform), ER-alpha, ER- α , ER66, Era	estrogen receptor 1	Nucleus	ligand-dependent nuclear receptor
ESR2	beta ESTROGEN receptor, ER-BETA, ER- β , Erb, ERB2, ER[b], ESR-BETA, ESR- β , ESRB, ESTRB	estrogen receptor 2 (ER beta)	Nucleus	ligand-dependent nuclear receptor
ESRRG	Err γ , ERR3, Errg, ERRG2, ERRgamma, estrogen-related receptor gamma, estrogen-related receptor- γ	estrogen related receptor gamma	Nucleus	ligand-dependent nuclear receptor
estrogen receptor	ER, ESR, ESR1/2, esr1/esr2		Nucleus	group
FOS	AP-1, C-FOS, D12Rfj1, FBJ murine osteosarcoma viral oncogene homolog, FBJ osteosarcoma oncogene, p55	FBJ murine osteosarcoma viral oncogene homolog	Nucleus	transcription regulator
GHRH	GHRF, GRF, Grh, Growth hormone releasing hormone, INN	growth hormone releasing hormone	Extracellular Space	other

GNRHR	GH1, GnRh receptor, GnRH-I, GnRHR Catfish, GNRHR1, gonadotropin releasing hormone receptor, GRHR	gonadotropin releasing hormone receptor	Plasma Membrane	G-protein coupled receptor
GRIN1	GluN1, GluRdelta1, GluRzeta1, glutamate receptor, ionotropic, N-methyl D-aspartate 1, glutamate receptor	glutamate receptor, ionotropic, N-methyl D-aspartate 1	Plasma Membrane	ion channel
hemoglobin	haemoglobin, Hb		Other	complex
histamine	1H-imidazole-4-ethanamine, 2-(1H-imidazol-5-yl)ethanamine, 2-imidazol-4-ylethylamine, 51-45-6, 56-92-8		Other	chemical - endogenous mammalian
Histone h3	H3, H3.3, Histone H3B		Nucleus	group
HSP90AB1	AL022974, C81438, D6S182, heat shock protein 90 alpha (cytosolic), class B member 1	heat shock protein 90kDa alpha family class B member 1	Cytoplasm	enzyme
HSP90B1	ECGP, endoplasmin, ERP99, FLJ22209, GP96, GRP94, heat shock protein 90, beta (Grp94), member 1	heat shock protein 90kDa beta family member 1	Cytoplasm	other
HSPA1A/HSPA1B	HEAT SHOCK 70-KDA, heat shock 70kD protein 1A, heat shock 70kD protein 1B (mapped)	heat shock protein family A (Hsp70) member 1A	Cytoplasm	enzyme
IGF1	C730016P09Rik, des(1-3)IGF-I, Des-(1-3)-igf1, IGF-I, IGF-I-smC, insulin like growth factor I	insulin like growth factor 1	Extracellular Space	growth factor
IGF1R	A330103N21RIK, CD221, D930020L01, hyft, IGF-1 receptor, IGF1R beta chain, Igflr beta isoform	insulin like growth factor 1 receptor	Plasma Membrane	transmembrane receptor
IKBKB	AI132552, AIM-1, I kappa b beta, i kappa b kinase, I kappa b beta, Ikb Kinase Beta, Ikb Kinase beta, IKK-2, IKK-beta	inhibitor of kappa light polypeptide gene enhancer in B-cells, kinase beta	Cytoplasm	kinase

Inhibin			Other	complex
IRS1	ENSMUSG00000022591, G972R, HIRS-1, insulin receptor substrate 1, IRS1IRM	insulin receptor substrate 1	Cytoplasm	enzyme
KAT5	AI839539, CPLA2, ESA1, HTATIP, HTATIP1, K(lysine) acetyltransferase 5, PLIP, TIP, Tip55, TIP60	K(lysine) acetyltransferase 5	Nucleus	transcription regulator
KDR	6130401C07, CD309, Flk, FLK1, Kinase Insert Domain, kinase insert domain protein receptor	kinase insert domain receptor	Plasma Membrane	kinase
KISS1	Eseptin, Gm28040, HH13, KiSS-1 metastasis-suppressor, Kisspeptin, Kisspeptin-1, metastatin	KiSS-1 metastasis-suppressor	Cytoplasm	other
LBP	BPIFD2, Lipopolysaccharide binding, lipopolysaccharide binding protein, Ly88	lipopolysaccharide binding protein	Plasma Membrane	transporter
LCN2	24p3, Alpha2u globulin related, AW212229, HNL, LIPOCALIN 2, MSFI, NEUTROPHIL LIPOCALIN	lipocalin 2	Extracellular Space	transporter
LCP2	AI323664, BB161688, Lymphocyte cytosolic protein 2, SLP-76, twm	lymphocyte cytosolic protein 2	Cytoplasm	other
LEP	LEPD, Leptin, OB, obese, Obgrp, OBS	leptin	Extracellular Space	growth factor
Lh	LUTEINIZING HORMONE		Plasma Membrane	complex
LHCGR	Gpcr19-rs1, HHG, LCGR, LGR2, LH receptor, LH-R, LH/CG-R, LHRHR, LSH-R	luteinizing hormone/choriogonadotropin receptor	Plasma Membrane	G-protein coupled receptor
LYZ	AI326280, Lys, Lysm, lysozyme, lysozyme 1, lysozyme 2, Lysozyme M, Lysozyme p, Lysz, Lyz1	lysozyme	Extracellular Space	enzyme

malondialdehyde	1,3-propanedialdehyde, 1,3-propanedione, 542-78-9, C3H4O2, malonaldehyde, malonic dialdehyde		Other	chemical toxicant
MAOA	1110061B18Rik, AA407771, Mao, Monoamine Oxidase A, NC61C12.R1	monoamine oxidase A	Cytoplasm	enzyme
MAP1LC3A	1010001H21Rik, 4922501H04Rik, ATG8E, LC3, Lc3-I, LC3A, MAP LC3, MAP1ALC3	microtubule associated protein 1 light chain 3 alpha	Cytoplasm	other
MAP1LC3B	1010001C15Rik, Atg8, ATG8F, Jhl1, Lc3, lc3-II, LC3B, MAP1A/1BLC3, MAP1LC3, MAP1LC3B-a	microtubule associated protein 1 light chain 3 beta	Cytoplasm	other
MAPK8	AI849689, C-JUN N-TERMINAL KINASE1, JNK, JNK-46, JNK1, JNK1A2, JNK21B1/2	mitogen-activated protein kinase 8	Cytoplasm	kinase
mir-146	hsa-mir-146, hsa-mir-146a, HSA-MIR-146B, microRNA 146, microRNA 146a, microRNA 146b	microRNA 146a	Cytoplasm	microRNA
Mmp	Matrix Metalloproteinase, MATRIX METALLOPROTEINASES, mmp (Matrix Metalloproteinase)		Nucleus	group
MMP9	AW743869, B/MMP9, CLG4B, COLLAGENASE type IV, Gelatinase B, GELB, Gl 92-kda, MANDP2	matrix metalloproteinase 9	Extracellular Space	peptidase
N-cor			Nucleus	group
NCOA1	bHLHe42, bHLHe74, F-SRC-1, KAT13A, NCOA, nuclear receptor coactivator 1, RIP160, SRC-1	nuclear receptor coactivator 1	Nucleus	transcription regulator
NCOA2	bHLHe75, D1Ert433e, GRIP-1, KAT13C, nuclear receptor coactivator 2, SRC-2, TIF-2	nuclear receptor coactivator 2	Nucleus	transcription regulator
NFE2L2	BM974200, HEBP1, NRF2, nuclear factor, erythroid 2-like 2, nuclear factor, erythroid derived 2, like 2	nuclear factor, erythroid 2 like 2	Nucleus	transcription regulator

nitric oxide	10102-43-9, Amidogen, oxo-, EDRF, inhaled nitric oxide, INOmax, Mononitrogen monoxide		Other	chemical - endogenous mammalian
NOS3	2310065A03Rik, ECNOS, eNOS, nitric oxide synthase 3, nitric oxide synthase 3, endothelial cell, nNOS	nitric oxide synthase 3	Cytoplasm	enzyme
NR3C1	GCCR, GCR, GCR alpha, GCR α , GCRST, glucocorticoid receptor, Glucocorticoid receptor α -2, GR, Gr alpha	nuclear receptor subfamily 3 group C member 1	Nucleus	ligand-dependent nuclear receptor
NR4A1	Gfrp, GFRP1, Hbr-1, HMR, Hormone receptor, N10, NAK-1, NGFI-B, NP10	nuclear receptor subfamily 4 group A member 1	Nucleus	ligand-dependent nuclear receptor
NR4A2	HZF-3, NOT, nuclear receptor subfamily 4 group A member 2, nuclear receptor subfamily 4, group A	nuclear receptor subfamily 4 group A member 2	Nucleus	ligand-dependent nuclear receptor
NR4A3	AI573420, CHN, CSMF, MINOR, NOR-1, NOR-2, nuclear receptor subfamily 4 group A member 3	nuclear receptor subfamily 4 group A member 3	Nucleus	ligand-dependent nuclear receptor
PAX6	1500038E17Rik, AEY11, AN, AN2, D11S812E, Dey, FVH1, Gsfaey11, MGDA, paired box 6	paired box 6	Nucleus	transcription regulator
PCNA	ATLD2, PcnA/cyclin, PCNAR, proliferating cell nuclear antigen	proliferating cell nuclear antigen	Nucleus	enzyme
PDIA2	1810041F13RIK, AI661267, PDA2, PDI, PDIP, Pdipl, PDIR, protein disulfide isomerase associated 2	protein disulfide isomerase family A member 2	Cytoplasm	enzyme
PEBP1	HCNP, HCNPpp, HEL-210, HEL-S-34, HEL-S-96, LOC100506570, PBP, Pbp1, Pbpr, PEBP	phosphatidylethanolamine binding protein 1	Cytoplasm	other

PGR	9930019P03Rik, BB114106, ENSMUSG00000074510, LOC360433, NR3C3, Pgrb, PR, PR beta, PR β	progesterone receptor	Nucleus	ligand-dependent nuclear receptor
PIK3R1	AA414921, AGM7, GRB1, IMD36, p85, p85 subunit of PI3-kinase, P85 α , p85-alpha	phosphoinositide-3-kinase regulatory subunit 1	Cytoplasm	kinase
PKM	AA414905, AL024370, AL024424, CTHBP, HEL-S-30, M2-Pk, OIP3, Pk-2, PK3, PKM12, PKM2	pyruvate kinase, muscle	Cytoplasm	kinase
PLN	CMD1P, CMH18, Phospholamban, PLB, Plm	phospholamban	Cytoplasm	transporter
POU5F1	NF-A3, OCT3, OCT3/4, OCT4, OTF-3, Otf3-rs7, Otf3g, OTF4, POU class 5 homeobox 1, POU domain	POU class 5 homeobox 1	Nucleus	transcription regulator
PPARG	CIMT1, GLM1, NR1C3, peroxisome proliferator activator receptor γ	peroxisome proliferator-activated receptor gamma	Nucleus	ligand-dependent nuclear receptor
PRDX2	AL022839, Band-8, HEL-S-2a, NKEF-B, Peroxiredoxin 2, PRP, PRX II, PRX2, PTX1, TDPX1, TDX1	peroxiredoxin 2	Cytoplasm	enzyme
PRKDC	AI326420, AU019811, DNA-DEPENDENT protein KINASE, DNA-PKcs, DNAPDcs, DNAPK, DNPK1	protein kinase, DNA-activated, catalytic polypeptide	Nucleus	kinase
PRL	AV290867, Dlt, GHA1, Prl1a1, PRLB, PRLSD1, Prol, prolactin, RATPRLSD1, RNPROL	prolactin	Extracellular Space	cytokine
progesterone	(8S,9S,10R,13S,14S,17S)-17-acetyl-10,13-dimethyl-1,2,6,7,8,9,11,12,14,15,16		Other	chemical - endogenous mammalian

PTGS2	COX-2, CYCLO-OXYGENASE 2, GRIPGHS, hCox-2, INDUCIBLE CYCLOOXYGENASE	prostaglandin-endoperoxide synthase 2 (prostaglandin G/H synthase and cyclooxygenase)	Cytoplasm	enzyme
RAB14	0610030G24Rik, 2810475J17Rik, A830021G03RIK, AI314285, AI649155, D030017L14RIK, FBP, RAB14	RAB14, member RAS oncogene family	Cytoplasm	enzyme
reactive oxygen species	oxygen and reactive oxygen species, reactive oxygen metabolites, ROI, ROS		Other	chemical toxicant
SKIL	9130011J04RIK, SKI-like, SKI-like proto-oncogene, SKIR, SNO, SnoA, SnoN	SKI-like proto-oncogene	Nucleus	transcription regulator
SLC12A5	KCC2, Kcc2b, Kcc3, mKIAA1176, solute carrier family 12 (potassium-chloride transporter)	solute carrier family 12 (potassium/chloride transporter), member 5	Plasma Membrane	transporter
SLC1A5	AAAT, ASCT2, ATBO, H4-ASCT2, M7V1, M7VS1, R16, RDRC, Slc1a7, solute carrier family 1	solute carrier family 1 (neutral amino acid transporter), member 5	Plasma Membrane	transporter
SLC22A6	HOAT1, mOat1, NKT, OAT1, Orct11, PAHT, ROAT1, solute carrier family 22 (organic anion transporter)	solute carrier family 22 (organic anion transporter), member 6	Plasma Membrane	transporter
SLC2A4	Gef, GLUT4, solute carrier family 2 (facilitated glucose transporter), member 4	solute carrier family 2 (facilitated glucose transporter), member 4	Plasma Membrane	transporter
SLC6A4	5-HT TRANSPORTER, 5-HTT, 5-HTTLPR, AI323329, hSERT, HTT, OCD1, Serotonin Transporter, SERT	solute carrier family 6 (neurotransmitter transporter), member 4	Plasma Membrane	transporter
Slc1a1	A530084B21, LOC100360270, Oatp, OATP-1, Oatp1a1, Slc21a1, Slc21a3, Slc1a	solute carrier organic anion transporter family, member 1a1	Plasma Membrane	transporter
SMAD3	AU022421, DKFZP586N0721, hMAD-3, HSPC193, HsT17436,	SMAD family member 3	Nucleus	transcription regulator

	JV15-2, LDS1C, LDS3, MAD3, MADH3			
SOX2	ANOP3, lcc, LOC100912162, MCOPS3, RGD1565646, SRY (sex determining region Y)-box 2, Sry-2	SRY-box 2	Nucleus	transcription regulator
SRD5A1	0610031P22RIK, 3-oxo-5 alpha-steroid delta 4-dehydrogenase alpha 1	steroid-5-alpha-reductase, alpha polypeptide 1 (3-oxo-5 alpha-steroid delta 4-dehydrogenase alpha 1)	Cytoplasm	enzyme
SRD5A2	5 α reductase type ii, 5-alpha-reductase 2, 5- α -reductase 2, 5alpha-R2, 5alpha-reductase type 2, 5ART2	steroid-5-alpha-reductase, alpha polypeptide 2 (3-oxo-5 alpha-steroid delta 4-dehydrogenase alpha 2)	Cytoplasm	enzyme
SRD5A3	1110025P14Rik, 5alpha-R3, A430076C09, AV364670, AW987574, Bb825787, CDG1P, CDG1Q	steroid 5 alpha-reductase 3	Cytoplasm	enzyme
STAT3	1110034C02Rik, acute-phase response factor, ADMIO, APRF, AW109958, HIES, MGC16063	signal transducer and activator of transcription 3 (acute-phase response factor)	Nucleus	transcription regulator
STK17B	3110009A03Rik, AI120141, DRAK2, serine/threonine kinase 17b	serine/threonine kinase 17b	Nucleus	kinase
SULT1A1	AI266890, ASTIV, HAST1/HAST2, Mx-ST, P-PST, PST, PST-1, ST1A1, ST1A3, Stm, STP, STP1	sulfotransferase family 1A member 1	Cytoplasm	enzyme
superoxide	11062-77-4, O ₂ ⁻ , oxygen peroxide, superoxide, superoxide anion, superoxide ion, superoxide radical		Other	chemical - endogenous mammalian
testosterone	(8R,9S,10R,13S,14S,17S)-17-hydroxy-10,13-dimethyl-1,2,6,7,8,9,11,12,14,15,16		Other	chemical - endogenous mammalian

TFF1	BCE1, D21S21, HP1.A, HPS2, NEPHROCALCIN, pNR-2, PS2, TIFF1, trefoil factor 1	trefoil factor 1	Extracellular Space	other
TGFB3	ARVD, ARVD1, PTGF β , RNHF, TGF-beta, TGF-beta-3, TGF- β , TGF- β -3	transforming growth factor beta 3	Extracellular Space	growth factor
THRB	C-ERBA-2, C-ERBA-BETA, C-ERBA- β , ERBA2, GRTH, NR1A2, PRTH, RATT3REC, T3Rbeta, T3rec	thyroid hormone receptor, beta	Nucleus	ligand-dependent nuclear receptor
TP53	bbl, BCC7, bfy, bhy, LFS1, p44, P53, P53 cellular tumour antigen, p53 tumor suppressor	tumor protein p53	Nucleus	transcription regulator
TPH2	ADHD7, AU043594, NTPH, Tryptophan hydroxylase 2	tryptophan hydroxylase 2	Plasma Membrane	enzyme
triacylglycerol	C6H5O6R3, TG, triacylglyceride, triacylglycerols, triglyacylglycerol, triglyceride, triglycerides, triglycerol		Other	chemical - endogenous mammalian

Supplementary Table 18: BPA and Behavior

Symbol	Synonym(s)	Entrez Gene Name	Location	Family
ADIPOQ	ACDC, ACRP30, Ad, adipo, Adipocyte complement related protein of 30 kda, ADIPOD	adiponectin, C1Q and collagen domain containing	Extracellular Space	other
Akt	AKT1/2/3, B/Akt, Pkb, RAC-PK		Cytoplasm	group
AR	AIS, Andr, androgen receptor, AR8, AW320017, DHTR, HUMARA, HYSPI, KD, NR3C4	androgen receptor	Nucleus	ligand-dependent nuclear receptor
BAX	BAX ε, Bcl2-associated X, BCL2-associated X protein, BCL2L4	BCL2-associated X protein	Cytoplasm	transporter
BCL2	AW986256, B cell leukaemia/lymphoma 2, B cell leukemia/lymphoma 2	B-cell CLL/lymphoma 2	Cytoplasm	transporter
beta-estradiol	(17)estradiol, (8R,9S,13S,14S,17S)-13-methyl-6,7,8,9,11,12,14,15,16		Other	chemical - endogenous mammalian
bisphenol A	2,2-(4,4'-dihydroxydiphenyl)propane, 2,2-bis(4-hydroxyphenyl)propane, 4'-bisphenol A, 4		Other	chemical - endogenous nonmammalian
C3	ACYLATION STIMULATING, AHUS5, AI255234, ARMD9, ASP, Complement c3	complement component 3	Extracellular Space	peptidase
Ca ²⁺	14127-61-8, Ca ²⁺ , calcium, calcium cation, calcium citrate, calcium ion, calcium ions, calcium(2+)		Other	chemical - endogenous mammalian
CASP3	A830040C14Rik, AC-3, Caspase-3, CASPASE-3 p20, CC3, CPP-32, CPP32B, Ice-like cysteine protease	caspase 3	Cytoplasm	peptidase
CDKN1A	CAP20, CDKI, CDKN1, CDKNA1, CIP1, cyclin-dependent kinase inhibitor 1A	cyclin-dependent kinase inhibitor 1A (p21, Cip1)	Nucleus	kinase

CDKN1B	AA408329, AI843786, Cdk1b, CDKN4, cyclin-dependent kinase inhibitor 1B,	cyclin-dependent kinase inhibitor 1B (p27, Kip1)	Nucleus	kinase
Creb	Cbp, Cyclic AMP response element binding		Nucleus	group
CTGF	AMPHIROGULIN, CCN2, connective tissue growth factor, CTGF isoform 1, CTGRP	connective tissue growth factor	Extracellular Space	growth factor
CYP19A1	Ar, ArKO, ARO, ARO1, Aromatase, CPV1, CYAR, CYP19, Cyp19a, CYP19P1, CYPXIX	cytochrome P450 family 19 subfamily A member 1	Cytoplasm	enzyme
D-glucose	(3R,4S,5S,6R)-6-(hydroxymethyl)oxane-2,3,4,5-tetrol, 2280-44-6, 50-99-7, biliary glucose		Other	chemical - endogenous mammalian
DLG4	discs, large homolog 4 (Drosophila), Dlg4, PSD-95, SAP-90, SAP90A	discs, large homolog 4 (Drosophila)	Plasma Membrane	kinase
dopamine	1,2-benzenediol, 4-(2-aminoethyl)-, 1,2-benzenediol, 4-(2-aminoethyl)- (9CI)		Other	chemical - endogenous mammalian
EGR1	A530045N19Rik, AT225, Early Growth Response 1, egr, ETR103, G0S30, Krox-1, KROX-24	early growth response 1	Nucleus	transcription regulator
ERK1/2	p42/44 mapk, P42/p44 erk, p42/p44 MAP KINASE, P42/p44 mapk, p44/p42 MAPK		Cytoplasm	group
ESR1	Alpha estrogen receptor, ER, Er alpha (46 kDa isoform), Er α (46 kDa isoform), ER-alpha, ER- α	estrogen receptor 1	Nucleus	ligand-dependent nuclear receptor
ESR2	beta ESTROGEN receptor, ER-BETA, ER- β , Erb, ERB2, ER[b], ESR-BETA, ESR- β , ESRB	estrogen receptor 2 (ER beta)	Nucleus	ligand-dependent nuclear receptor

estrogen receptor	ER, ESR, ESR1/2, esr1/esr2		Nucleus	group
FOS	AP-1, C-FOS, D12Rfj1, FBJ murine osteosarcoma viral oncogene homolog, FBJ osteosarcoma oncogene	FBJ murine osteosarcoma viral oncogene homolog	Nucleus	transcription regulator
GRIN1	GluN1, GluRdelta1, GluRzeta1, glutamate receptor, ionotropic, N-methyl D-aspartate 1	glutamate receptor, ionotropic, N-methyl D-aspartate 1	Plasma Membrane	ion channel
histamine	1H-imidazole-4-ethanamine, 2-(1H-imidazol-5-yl)ethanamine, 2-imidazol-4-ylethylamine		Other	chemical - endogenous mammalian
HSPA1A/HSPA1B	HEAT SHOCK 70-KDA, heat shock 70kD protein 1A, heat shock 70kD protein 1B (mapped)	heat shock protein family A (Hsp70) member 1A	Cytoplasm	enzyme
IGF1	C730016P09Rik, des(1-3)IGF-I, Des-(1-3)-igf1, IGF-I, IGF-I-smC, insulin like growth factor I	insulin like growth factor 1	Extracellular Space	growth factor
IGF1R	A330103N21RIK, CD221, D930020L01, hyft, IGF-1 receptor, IGF1R beta chain	insulin like growth factor 1 receptor	Plasma Membrane	transmembrane receptor
KDR	6130401C07, CD309, Flk, FLK1, Kinase Insert Domain, kinase insert domain protein receptor	kinase insert domain receptor	Plasma Membrane	kinase
LCN2	24p3, Alpha2u globulin related, AW212229, HNL, LIPOCALIN 2, MSFI, NEUTROPHIL LIPOCALIN	lipocalin 2	Extracellular Space	transporter
LEP	LEPD, Leptin, OB, obese, Obgrp, OBS	leptin	Extracellular Space	growth factor
LHCGR	Gpcr19-rs1, HHG, LCGR, LGR2, LH receptor, LH-R, LH/CG-R, LHRHR, LSH-R	luteinizing hormone/choriogonadotropin receptor	Plasma Membrane	G-protein coupled receptor
MAOA	1110061B18Rik, AA407771, Mao, Monoamine Oxidase A, NC61C12.R1	monoamine oxidase A	Cytoplasm	enzyme

MECP2	1500041B07Rik, AUTSX3, D630021H01RIK, Mbd5, Mecp2 Beta, Mecp2 β	methyl-CpG binding protein 2	Nucleus	transcription regulator
MMP9	AW743869, B/MMP9, CLG4B, COLLAGENASE type IV, Gelatinase B, GELB, GI 92-kda	matrix metalloproteinase 9	Extracellular Space	peptidase
NCOA1	bHLHe42, bHLHe74, F-SRC-1, KAT13A, NCOA, nuclear receptor coactivator 1, RIP160, SRC-1	nuclear receptor coactivator 1	Nucleus	transcription regulator
NCOA2	bHLHe75, D1Ert433e, GRIP-1, KAT13C, nuclear receptor coactivator 2, SRC-2, TIF-2	nuclear receptor coactivator 2	Nucleus	transcription regulator
NFE2L2	BM974200, HEBP1, NRF2, nuclear factor, erythroid 2-like 2, nuclear factor, erythroid derived 2, like 2	nuclear factor, erythroid 2 like 2	Nucleus	transcription regulator
NOS3	2310065A03Rik, ECNOS, eNOS, nitric oxide synthase 3, nitric oxide synthase 3, endothelial cell, nNOS	nitric oxide synthase 3	Cytoplasm	enzyme
NR3C1	GCCR, GCR, GCR alpha, GCR α , GCRST, glucocorticoid receptor, Glucocorticoid receptor α -2, GR, Gr alpha	nuclear receptor subfamily 3 group C member 1	Nucleus	ligand-dependent nuclear receptor
NR4A2	HZF-3, NOT, nuclear receptor subfamily 4 group A member 2, nuclear receptor subfamily 4	nuclear receptor subfamily 4 group A member 2	Nucleus	ligand-dependent nuclear receptor
NR4A3	AI573420, CHN, CSMF, MINOR, NOR-1, NOR-2, nuclear receptor subfamily 4 group A member 3	nuclear receptor subfamily 4 group A member 3	Nucleus	ligand-dependent nuclear receptor
OXT	OP, OT, OT-NPI, OXT-NPI, Oxy, oxytocin, Oxytocin-neurophysin i	oxytocin/neurophysin I prepropeptide	Extracellular Space	other

PAX6	1500038E17Rik, AEY11, AN2, AN, D11S812E, Dey, FVH1, Gsfaey11, MGDA	paired box 6	Nucleus	transcription regulator
PGR	9930019P03Rik, BB114106, ENSMUSG00000074510, LOC360433, NR3C3, Pgrb, PR	progesterone receptor	Nucleus	ligand-dependent nuclear receptor
PKM	AA414905, AL024370, AL024424, CTHBP, HEL-S-30, M2-Pk, OIP3, Pk-2, PK3, PKM12, PKM2	pyruvate kinase, muscle	Cytoplasm	kinase
PPARG	CIMT1, GLM1, NR1C3, peroxisome proliferator activator receptor γ	peroxisome proliferator-activated receptor gamma	Nucleus	ligand-dependent nuclear receptor
PRL	AV290867, Dlt, GHA1, Prl1a1, PRLB, PRLSD1, Prol, prolactin, RATPRLSD1, RNPROL	prolactin	Extracellular Space	cytokine
progesterone	(8S,9S,10R,13S,14S,17S)-17-acetyl-10,13-dimethyl-1,2,6,7,8,9,11,12,14,15,16		Other	chemical - endogenous mammalian
PTGS2	COX-2, CYCLO-OXYGENASE 2, GRIPGHS, hCox-2, INDUCIBLE CYCLOOXYGENASE	prostaglandin-endoperoxide synthase 2 (prostaglandin G/H synthase and cyclooxygenase)	Cytoplasm	enzyme
reactive oxygen species	oxygen and reactive oxygen species, reactive oxygen metabolites, ROI, ROS		Other	chemical toxicant
SLC12A5	KCC2, Kcc2b, Kcc3, mKIAA1176, solute carrier family 12 (potassium-chloride transporter)	solute carrier family 12 (potassium/chloride transporter), member 5	Plasma Membrane	transporter
SLC6A14	1110007A17RIK, 9030613J17Rik, ATB(0+), Atb0+, ATB0plus, BMIQ11, CATB0plus	solute carrier family 6 (amino acid transporter), member 14	Plasma Membrane	transporter

SLC6A4	5-HT TRANSPORTER, 5-HTT, 5-HTTLPR, AI323329, hSERT, HTT, OCD1	solute carrier family 6 (neurotransmitter transporter), member 4	Plasma Membrane	transporter
STAT3	1110034C02Rik, acute-phase response factor, ADMIO, APRF, AW109958, HIES, MGC16063	signal transducer and activator of transcription 3 (acute-phase response factor)	Nucleus	transcription regulator
superoxide	11062-77-4, O ₂ ⁻ , oxygen peroxide, superoxide, superoxide anion, superoxide ion, superoxide radical		Other	chemical - endogenous mammalian
SYN1	Syn1-S, SYN1a, SYN1b, synapsin I, Synapsin Ia, Synapsin Ib, Synapsin-1, SYNI	synapsin I	Plasma Membrane	transporter
tannic acid	1401-55-4, C ₂₆ H ₂₀ O ₁₈ , gallotannic acid, gallotannin, tannic acid		Other	chemical toxicant
testosterone	(8R,9S,10R,13S,14S,17S)-17-hydroxy-10,13-dimethyl-1,2,6,7,8,9,11,12,14,15,16		Other	chemical - endogenous mammalian
TGFB3	ARVD, ARVD1, PTGF β , RNHF, TGF-beta, TGF-beta-3, TGF- β , TGF- β -3	transforming growth factor beta 3	Extracellular Space	growth factor
THRB	C-ERBA-2, C-ERBA-BETA, C-ERBA- β , ERBA2, GRTH, NR1A2, PRTH, RATT3REC, T3Rbeta	thyroid hormone receptor, beta	Nucleus	ligand-dependent nuclear receptor
TP53	bbl, BCC7, bfy, bhy, LFS1, p44, P53, P53 cellular tumour antigen, p53 tumor suppressor	tumor protein p53	Nucleus	transcription regulator
TPH2	ADHD7, AU043594, NTPH, Tryptophan hydroxylase 2	tryptophan hydroxylase 2	Plasma Membrane	enzyme

Supplementary Table 19: Buprenorphine and Organismal Injury

Symbol	Synonym(s)	Entrez Gene Name	Location	Family
buprenorphine	52485-79-7, 53152-21-9, 6,14-ethenomorphinan-7-methanol		Other	chemical drug
corticosterone	(8S,9S,10R,11S,13S,14S,17S)-11-hydroxy-17-(2-hydroxyacetyl)-10		Other	chemical - endogenous mammalian
CYP1A1	AH Hydroxylase, AHH, AHRR, CP11, CYP1, Cyp1a2, Cyp45c, Cypc45c, CYPIA1	cytochrome P450 family 1 subfamily A member 1	Cytoplasm	enzyme
CYP1A2	CP12, Cyp1a1, CYPD45, CYPIA2, cytochrome P450 family 1 subfamily A member 2,	cytochrome P450 family 1 subfamily A member 2	Cytoplasm	enzyme
CYP2B6	CPB6, CYP2B, Cyp2b1, Cyp2b10, Cyp2b2, Cyp2b20, Cyp2b20/10, CYP2B3, Cyp2b6/7, CYP2B7	cytochrome P450 family 2 subfamily B member 6	Cytoplasm	enzyme
CYP2C19	CPCJ, CYP2C, Cyp2c6, Cyp2c6v1, CYP450-2C, CYPIIC17, CYPIIC19, CYPIIC6	cytochrome P450 family 2 subfamily C member 19	Cytoplasm	enzyme
CYP2C8	Ah-2, Ahh-1, AHOH, AHOHase, AI159681, AI196010, CPC8, Cyp2c, Cyp2c29, Cyp2c38	cytochrome P450 family 2 subfamily C member 8	Cytoplasm	enzyme
CYP2C9	2010301M18Rik, 2210009K14Rik, CPC9, CYP2C, CYP2C10, Cyp2c11, Cyp2c111	cytochrome P450 family 2 subfamily C member 9	Cytoplasm	enzyme
CYP2D6	CPD6, CYP2D, Cyp2d13, CYP2D18, Cyp2d22, Cyp2d3, Cyp2d4v1, Cyp2d4v2, CYP2D7AP	cytochrome P450 family 2 subfamily D member 6	Cytoplasm	enzyme
CYP2E1	CPE1, CYP2E, CYPIIE1, cytochrome P450 family 2 subfamily E member 1, cytochrome P450	cytochrome P450 family 2 subfamily E member 1	Cytoplasm	enzyme
CYP3A4	CP33, CP34, CYP3A, Cyp3a11, Cyp3a2, CYP3A23, CYP3A3, CYPIIIA3, CYPIIIA4	cytochrome P450 family 3 subfamily A member 4	Cytoplasm	enzyme

OPRD1	DOR, DOR-1, mDOR, Nbor, OPIATE delta receptor, OPIOID receptor delta, opioid receptor, delta 1, OPRD	opioid receptor, delta 1	Plasma Membrane	G-protein coupled receptor
OPRK1	FLJ13136, K-OR-1, K1or, KAPPA OPIOID receptor, KOR, MSL-1, OPIATE receptor KAPPA	opioid receptor, kappa 1	Plasma Membrane	G-protein coupled receptor
OPRM1	LMOR, M-OR-1, MOP, MOP-R, MOR, MOR-1O, MORA, MU OPIOID receptor, muOR	opioid receptor, mu 1	Plasma Membrane	G-protein coupled receptor
PRL	AV290867, Dlt, GHA1, Prl1a1, PRLB, PRLSD1, Prol, prolactin, RATPRLSD1, RNPROL	prolactin	Extracellular Space	cytokine
UGT1A1	BILIQTL1, BILIRUBIN UDP-GLUCURONOSYLTRANSFERASE ISOENZYME1, GNT1	UDP glucuronosyltransferase 1 family, polypeptide A1	Cytoplasm	enzyme

Supplementary Table 20: Buprenorphine and Organismal Survival

Symbol	Synonym(s)	Entrez Gene Name	Location	Family
buprenorphine	6,14-ethenomorphinan-7-methanol, 17-(cyclopropylmethyl)-alpha-(1,1-dimethylethyl)-4		Other	chemical drug
corticosterone	11,12-dihydroxyprogesterone, 11beta,21-dihydroxy-4-pregnene-3,20-dione, 50-22-6		Other	chemical - endogenous mammalian
CYP1A1	AH Hydroxylase, AHH, AHRR, CP11, CYP1, Cyp1a2, Cyp45c, Cypc45c, CYPIA1	cytochrome P450 family 1 subfamily A member 1	Cytoplasm	enzyme
CYP1A2	CP12, Cyp1a1, CYPD45, CYPIA2, cytochrome P450 family 1 subfamily A member 2	cytochrome P450 family 1 subfamily A member 2	Cytoplasm	enzyme
CYP2B6	CPB6, CYP2B, Cyp2b1, Cyp2b10, Cyp2b2, Cyp2b20, Cyp2b20/10, CYP2B3, Cyp2b6/7, CYP2B7	cytochrome P450 family 2 subfamily B member 6	Cytoplasm	enzyme
CYP2C19	CPCJ, CYP2C, Cyp2c6, Cyp2c6v1, CYP450-2C, CYPIIC17, CYPIIC19, CYPIIC6	cytochrome P450 family 2 subfamily C member 19	Cytoplasm	enzyme
CYP2D6	CPD6, CYP2D, Cyp2d13, CYP2D18, Cyp2d22, Cyp2d3, Cyp2d4v1, Cyp2d4v2, CYP2D7AP, CYP2D7BP	cytochrome P450 family 2 subfamily D member 6	Cytoplasm	enzyme
CYP2E1	CPE1, CYP2E, CYPIIE1, cytochrome P450 family 2 subfamily E member 1, cytochrome P450, family 2	cytochrome P450 family 2 subfamily E member 1	Cytoplasm	enzyme
CYP3A4	CP33, CP34, Cyp3a2, CYP3A3, Cyp3a11, CYP3A23, CYP3A, CYPIIIA3, CYPIIIA4	cytochrome P450 family 3 subfamily A member 4	Cytoplasm	enzyme
OPRK1	FLJ13136, K-OR-1, K1or, KAPPA OPIOID receptor, KOR, MSL-1, OPIATE receptor KAPPA	opioid receptor, kappa 1	Plasma Membrane	G-protein coupled receptor
OPRM1	LMOR, M-OR-1, MOP, MOP-R, MOR, MOR-1O, MORA, MU OPIOID receptor, muOR	opioid receptor, mu 1	Plasma Membrane	G-protein coupled receptor

UGT1A1	BILIQTL1, BILIRUBIN UDP- GLUCURONOSYLTRANSFERASE ISOENZYME1, GNT1, HUG-BR1	UDP glucuronosyltransferase 1 family, polypeptide A1	Cytoplasm	enzyme
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Supplementary Table 21: Buprenorphine and Cell Death

Symbol	Synonym(s)	Entrez Gene Name	Location	Family
CYP2C9	2010301M18Rik, 2210009K14Rik, CPC9, CYP2C, CYP2C10, Cyp2c11, Cyp2c11l, Cyp2c4	cytochrome P450 family 2 subfamily C member 9	Cytoplasm	enzyme
CYP2E1	CPE1, CYP2E, CYP11E1, cytochrome P450 family 2 subfamily E member 1, cytochrome P450	cytochrome P450 family 2 subfamily E member 1	Cytoplasm	enzyme

Supplementary Table 22: Buprenorphine and Cancer

Symbol	Synonym(s)	Entrez Gene Name	Location	Family
CYP1A1	AH Hydroxylase, AHH, AHRR, CP11, CYP1, Cyp1a2, Cyp45c, Cypc45c, CYPIA1	cytochrome P450 family 1 subfamily A member 1	Cytoplasm	enzyme
CYP1A2	CP12, Cyp1a1, CYPD45, CYPIA2, cytochrome P450 family 1 subfamily A member 2	cytochrome P450 family 1 subfamily A member 2	Cytoplasm	enzyme
CYP2B6	CPB6, CYP2B, Cyp2b1, Cyp2b10, Cyp2b2, Cyp2b20, Cyp2b20/10, CYP2B3, Cyp2b6/7	cytochrome P450 family 2 subfamily B member 6	Cytoplasm	enzyme
CYP2C19	CPCJ, CYP2C, Cyp2c6, Cyp2c6v1, CYP450-2C, CYPIIC17, CYPIIC19, CYPIIC6	cytochrome P450 family 2 subfamily C member 19	Cytoplasm	enzyme
CYP2C8	Ah-2, Ahh-1, AHOH, AHOHase, AI159681, AI196010, CPC8, Cyp2c, Cyp2c29, Cyp2c38	cytochrome P450 family 2 subfamily C member 8	Cytoplasm	enzyme
CYP2C9	2010301M18Rik, 2210009K14Rik, CPC9, CYP2C, CYP2C10, Cyp2c11, Cyp2c11l, Cyp2c4	cytochrome P450 family 2 subfamily C member 9	Cytoplasm	enzyme
CYP2D6	CPD6, CYP2D, Cyp2d13, CYP2D18, Cyp2d22, Cyp2d3, Cyp2d4v1, Cyp2d4v2, CYP2D7AP	cytochrome P450 family 2 subfamily D member 6	Cytoplasm	enzyme
CYP2E1	CPE1, CYP2E, CYPIIE1, cytochrome P450 family 2 subfamily E member 1, cytochrome P450	cytochrome P450 family 2 subfamily E member 1	Cytoplasm	enzyme
CYP3A4	CP33, CP34, Cyp3a2, CYP3A3, Cyp3a11, CYP3A23, CYP3A, CYPIIIA3, CYPIIIA4	cytochrome P450 family 3 subfamily A member 4	Cytoplasm	enzyme
OPRD1	DOR, DOR-1, mDOR, Nbor, OPIATE delta receptor, OPIOID receptor delta, opioid receptor, delta 1, OPRD	opioid receptor, delta 1	Plasma Membrane	G-protein coupled receptor
OPRK1	FLJ13136, K-OR-1, K1or, KAPPA OPIOID receptor, KOR, MSL-1, OPIATE receptor KAPPA	opioid receptor, kappa 1	Plasma Membrane	G-protein coupled receptor
OPRM1	LMOR, M-OR-1, MOP, MOP-R, MOR, MOR-1O, MORA, MU OPIOID receptor, muOR	opioid receptor, mu 1	Plasma Membrane	G-protein coupled receptor

PRL	AV290867, Dlt, GHA1, Prl1a1, PRLB, PRLSD1, Prol, prolactin, RATPRLSD1, RNPROL	prolactin	Extracellular Space	cytokine
UGT1A1	BILIQTL1, BILIRUBIN UDP-GLUCURONOSYLTRANSFERASE ISOENZYME1, GNT1, HUG-BR1	UDP glucuronosyltransferase 1 family, polypeptide A1	Cytoplasm	enzyme

Supplementary Table 23: Buprenorphine and Behavior

Symbol	Synonym(s)	Entrez Gene Name	Location	Family
buprenorphine	6,14-ethenomorphinan-7-methanol, 17-(cyclopropylmethyl)-alpha-(1,1-dimethylethyl)-4,5-epoxy-18		Other	chemical drug
corticosterone	(8S,9S,10R,11S,13S,14S,17S)-11-hydroxy-17-(2-hydroxyacetyl)-10,13-dimethyl-1,2,6,7,8,9,11,12,14,15,16		Other	chemical - endogenous mammalian
CYP1A2	CP12, Cyp1a1, CYPD45, CYPIA2, cytochrome P450 family 1 subfamily A member 2, cytochrome P450	cytochrome P450 family 1 subfamily A member 2	Cytoplasm	enzyme
CYP2E1	CPE1, CYP2E, CYPIIE1, cytochrome P450 family 2 subfamily E member 1, cytochrome P450, family 2	cytochrome P450 family 2 subfamily E member 1	Cytoplasm	enzyme
OPRD1	DOR, DOR-1, mDOR, Nbor, OPIATE delta receptor, OPIOID receptor delta, opioid receptor, delta 1, OPRD	opioid receptor, delta 1	Plasma Membrane	G-protein coupled receptor
OPRK1	FLJ13136, K-OR-1, K1or, KAPPA OPIOID receptor, KOR, MSL-1, OPIATE receptor KAPPA	opioid receptor, kappa 1	Plasma Membrane	G-protein coupled receptor
OPRM1	LMOR, M-OR-1, MOP, MOP-R, MOR, MOR-1O, MORA, MU OPIOID receptor, muOR	opioid receptor, mu 1	Plasma Membrane	G-protein coupled receptor
PRL	AV290867, Dlt, GHA1, Prl1a1, PRLB, PRLSD1, Prol, prolactin, RATPRLSD1, RNPROL	prolactin	Extracellular Space	cytokine