

Supplementary Materials: A Mixture of Persistent Organic Pollutants and Perfluorooctanesulfonic Acid Induce Similar Behavioural Responses, but Different Gene Expression Profiles in Zebrafish Larvae

Abdolrahman Khezri, Thomas W. K. Fraser, Rasoul Nourizadeh-Lillabadi, Jorke H. Kamstra, Vidar Berg, Karin E. Zimmer and Erik Ropstad

Table S1. The composition and concentrations of chemicals in the persistent organic pollutant (POP) mixture. The value reflect the concentrations equal to 1× the mean human plasma level. (Pf) Perfluorinated mixture; (Br) Brominated mixture; (Cl) Chlorinated mixture; (Pf + Br) binary mixture of perfluorinated and brominated compounds; (Pf + Cl) binary mixture of perfluorinated and chlorinated compounds; (Br + Cl) binary mixture of brominated and chlorinated compounds. The table is adapted from [67].

Compounds	Concentration (nM)						
	Total	Pf	Br	Cl	Pf + Br	Pf + Cl	Br + Cl
Perfluorinated compounds (PFCs)							
PFOA	10.923	10.923			10.923	10.923	
PFOS	54.801	54.801			54.801	54.801	
PFDA	0.962	0.962			0.962	0.962	
PFNA	1.723	1.723			1.723	1.723	
PFHxS	7.873	7.873			7.873	7.873	
PFUnDA	0.990	0.990			0.990	0.990	
Polybrominated diphenyl ethers (PBDEs)							
BDE-47	0.018		0.018		0.018		0.018
BDE-99	0.007		0.007		0.007		0.007
BDE-100	0.003		0.003		0.003		0.003
BDE-153	0.001		0.001		0.001		0.001
BDE-154	0.003		0.003		0.003		0.003
BDE-209	0.011		0.011		0.011		0.011
HBCD	0.038		0.038		0.038		0.038
Chlorinated compounds (CLCs) including							
Polychlorinated biphenyls (PCBs)							
PCB 28	0.050			0.050		0.050	0.050
PCB 52	0.034			0.034		0.034	0.034
PCB 101	0.024			0.024		0.024	0.024
PCB 118	0.196			0.196		0.196	0.196
PCB 138	0.615			0.615		0.615	0.615
PCB 153	1.003			1.003		1.003	1.003
PCB 180	0.490			0.490		0.490	0.490
Other organochlorines							
p,p'-DDE	1.578			1.578		1.578	1.578
HCB	0.410			0.410		0.410	0.410
α-chlordane	0.026			0.026		0.026	0.026
Oxy-chlordane	0.051			0.051		0.051	0.051
Trans-nonachlor	0.092			0.092		0.092	0.092
α-HCH	0.020			0.020		0.020	0.020
β-HCH	0.182			0.182		0.182	0.182
γ-HCH (Lindane)	0.020			0.020		0.020	0.020
Dieldrin	0.063			0.063		0.063	0.063

Table S2. Primer sequences for qPCR.

Gene	Accession Number	Sequence	PCR Product Size
<i>Bactin</i>	FJ_915059.1	F: CGAGCAGGAGATGGGAAC R: CAACGGAAACGCTCATTGC	101
<i>Hprt</i>	NM_212986.1	F: CAGCGATGAGGAGCAAGGTTATG R: GTCCATGATGAGCCCGTGAGG	102
<i>Ef1α</i>	AM_422110.2	F: TTGAGAAGAAAATCGGTGGTGCTG R: GGAACGGTGTGATTGAGGGAAATTC	90
<i>Rps18</i>	NM_173234.1	F: CATCCCAGAGAAGTTTCAGCACATC R: CGCCTTCCAACACCCTTAATAGC	104
<i>Hmbs</i>	NM_201154.1	F: GTGTGTGGAATTGGACAACAAAGTG R: CGAGGGCTGATGATGAGATATTGC	91
<i>th1</i>	NM_131149.1	F: TGGATCAGGATCACCCAGGA R: GTAGACCTCCCGCCATGTTC	149
<i>th2</i>	NM_001001829.1	F: CGTTCCGGGTTTTCCAGTGT R: CGAGACGAGTCCAATCTGTGAA	152
<i>manf</i>	NM_001076629	F: AGAGTGTGAAGTCTGTGTGGG R: CGCTGTCAAACCTTGACGTTGT	77
<i>hdc</i>	NM_001102593.1	F: CTGGGCTCCACTGGTGTG R: CTTGGACGGTTGAAGACGA	141
<i>hrh1</i>	NM_001042731.1	F: CGACCTCCACATGTTACCA R: CGTTGCAGAGCGGGTAAATG	77
<i>crhb</i>	NM_001007379.1	F: CAATTACGCACAGATTCTCCTCG R: GAAGTACTCCTCCCCAAGC	197
<i>bdnf</i>	NM_001308649.1	F: GGACACTTTCGAGCAGGTCA R: CTCAAAGGCACTTGGTTGC	178
<i>nr4a2b</i>	NM_001002406.1	F: CGTACAGATCCAACCTGCCA R: TATGGTGAGAGCGGCTATGC	194
<i>iphn3.1</i>	XM_005170940.2	F: GAACAGCTCAGCGACTCTCA R: TGTAGGAGGCTTGGGTGTG	161
<i>per1b</i>	NM_212439.2	F: AACGCTAAAGGTCCGCTCTGT R: CTTGTCCCCAACATGGACGA	141
<i>ache</i>	NM_131846.1	F: CTCCAGGAACACTAGGCTGG R: TACACAGCACCATGCGAGTT	73
<i>gabra1</i>	NM_001077326.1	F: AGCCATCCTGATTTTCGAGGG R: AGCTTTTTCCAGCCAGAGCA	121
<i>chrna1</i>	NM_131445.1	F: CTCGACCGACCTCTGGAAAC R: GCAGGTCGAAGGGAAAGTGA	176
<i>chrna7</i>	NM_201219.2	F: GAGTGGGACCTTGTGGAAGT R: TCCGCATCACCACCGTAAAA	100
<i>gad2</i>	NM_001017708.2	F: ATGGGCTAACCTCCACTGCC R: CGAGCCAGTAGCATGGCATA	184
<i>gad1b</i>	NM_194419.1	F: CTGTGACACCTGTGACTCCGTA R: GTGTGCAACCCCGTACCAC	181
<i>gabbr1a</i>	XM_689405.6	F: AACAAACCGGAGCGACATTCT R: CAGATTCCACATTTCGCGCTG	189
<i>htr1aa</i>	NM_001123321.1	F: CTACTIONACTTTCCGGGGCGT R: CACCGCCAAGCATTATCCG	145
<i>sertb</i>	NM_001177459.1	F: ACCCTGCCATATGTTGTGCT R: AGCTGCATCTACCATAACGC	135
<i>ryr3</i>	XM_009294773.1	F: GAGGCAACGTTCTTGTGCAG R: CCGTCCTTTCACGCTGATTG	191
<i>dat</i>	NM_131755.1	F: TCAAGTTCCTGCACAAACATCG R: CACAAATTTCCAGCACAGTCTCC	268