

SUPPLEMENTAL DATA

Fay, K.A., et al.

Comparison of trout hepatocytes and liver S9 fractions as *in vitro* models for predicting hepatic clearance in fish

Table S1. Measured substrate concentrations (μM ; mean \pm SD) across studies

	Hepatocyte in vitro ^a	S9 in vitro ^b	Isolated perfused livers ^b
Naphthalene	2.70 \pm 0.20	2.37 \pm 0.14	2.29 \pm 0.17
Fluorene	0.93 \pm 0.18	0.77 \pm 0.04	0.81 \pm 0.24
Anthracene	0.14 \pm 0.01	0.14 \pm 0.01	0.14 \pm 0.04
Phenanthrene	1.50 \pm 0.20	1.26 \pm 0.04	1.14 \pm 0.16
Pyrene	0.25 \pm 0.02	0.36 \pm 0.03	0.27 \pm 0.03
Benzo[a]pyrene	0.16 \pm 0.01	0.15 \pm 0.00	0.11 \pm 0.01

^aPresent study

^bData provided in Nichols et al. [19]

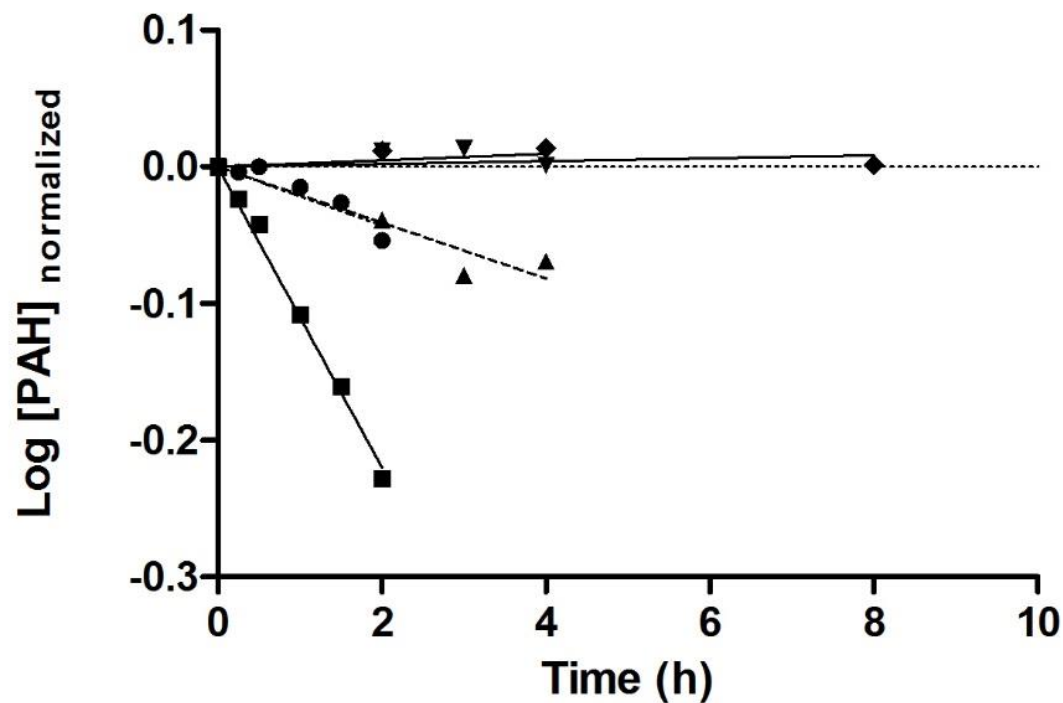


Figure S1. Effect of aminobenzotriazole (ABT) and ketoconazole (Ket) on biotransformation activity of hepatocyte suspensions. Enzymatic inhibition using either 1 mM ABT (dots) or 0.5 uM Ket (up triangles) was incomplete, as evidenced by diminished but measurable clearance of fluorene (FLU). The use of 1 mM ABT + 0.5 uM Ket resulted in complete inhibition of fluorene metabolism up to 4 h (down triangles). Data for the active depletion of fluorene by the same lot of hepatocytes (no inhibitors) is also provided (squares). The depletion of benzo[a]pyrene (BAP) was similarly inhibited by the combination of ABT and Ket for up to 8 h (diamonds). BAP was the most rapidly depleted test chemical used in this study.

Table S2. Enzymatic characterization of cryopreserved hepatocytes obtained from individual fish, including measured in vitro intrinsic clearance ($CL_{IN\ VITRO,INT,HEP}$) of 6 polycyclic aromatic hydrocarbons

Cell lot	Sex	EROD ^a	UGT ^b	GST ^b	$CL_{IN\ VITRO,INT,HEP}$ ^c					
					NAPH	FLU	ANTH	PHEN	PYR	BAP
1	male	5.8	0.21	326	0.019	0.35	0.51	0.27	3.54	0.66
2	female	6.4	0.32	299	0.021	0.19	0.30	0.18	3.13	0.57
3	male	7.6	0.3	276	0.027	0.38	0.16	0.18	1.57	0.51
4	female	5.0	0.28	239	0.033	0.50	0.20	0.16	1.89	0.34
5	male	3.3	0.40	227	0.013	0.24	0.32	0.19	3.76	0.61
6	female	5.0	0.42	174	0.011	0.20	0.30	0.23	3.28	0.56
7	female	4.2	0.31	268	0.007	0.27	0.38	0.23	4.70	0.61
8	male	9.1	0.25	271	0.024	0.36	0.35	0.22	3.63	0.41
9	male	9.9	0.29	257	0.011	0.18	0.33	0.27	2.43	0.57

EROD = ethoxyresorufin-*O*-deethylase; UGT = uridine diphosphate (UDP)-glucuronosyltransferase; GST = glutathione-*S*-transferase; NAPH = naphthalene; FLU = fluorene; ANTH = anthracene; PHEN = phenanthrene; PYR = pyrene; BAP = benzo[a]pyrene

^a(pmol/min/mg); ^b(nmol/min/mg); ^c(mL/h/10⁶ cells)