Supplemental Table 1: Description of primers used for real-time PCR.

Gene	Strand	Primer sequence (5'- 3')	Source
Adh1	*Sense*	*GCTCTGCCGTCAAAGTCGCCA*	*Designed by*
	Antisense	*ACCGACACCTCCGAGGCCAA*	*PrimerBlast*
Cyclophilin	*Sense*	*CAGAACAT ATCCCTGCAT*	*Designed by*
	Antisense	*GTTCAGCTCTGGGATGACCTT*	*PrimerBlast*
Cyp2a4	*Sense*	*AGCAGGCTACCT TCGACTGG*	*(1)*
	Antisense	*GCTGCTGAAGGCTATGCCAT*	
Cyp2b9	*Sense*	*CTGAGACCACAAGCGCCAC*	*(1)*
	Antisense	*CTTGAGCATGAGCAGGACTCC*	
Cyp2d9	*Sense*	*AGTCTCTGGCTTAATTCCTGAT*	*(1)*
	Antisense	*CGCAAGAGTATCGGGAATGC*	
Cyp7b1	*Sense*	*TGAGGTTCTGAGGCTGTGCTC*	*Designed by*
	Antisense	*TCCTGCACTTCTCGGATGATG*	*PrimerBlast*
Cyp3a16	*Sense*	*AGCACCGCGTGGACTTTATT*	*Designed by*
	Antisense	*GGGCTGTGATCTCGATTTCAG*	*PrimerBlast*
Cyp3a44	*Sense*	*TTGTGGAGGAAGCCAAAAAGTTT*	*Designed by*
	Antisense	*TGAGAAGAGCAAAGGATCAAAAAAGT*	*PrimerBlast*
Cyp3a41	*Sense*	*GTGGAGAAAGCCAAAGGGATT*	*Designed by*
	Antisense	*GAAGACCAAAGGATCAAAAAAGTCA*	*PrimerBlast*
Mup	*Sense*	*GACTTTTTCTGGAGCAAATCCATG*	*(2)*
*1/2/6/8**	*Antisense*	*GAGCACTCTTCATCTCTTACAG*	
Mup1	*Sense*	*CAAAACAGAAAAGGCTGGTGA*	*Designed by*

	Antisense	*TTGTGCAAACCTTTCCTTGA*	*PrimerBlast*
Ghr	*Sense*	*CCAACTCGCCTCTACACCG*	*Designed by*
	Antisense	*GGGAAAGGACTACACCACCTG*	*PrimerBlast*
Prlr	*Sense*	*CACAGTAAATGCCACGAACG*	*Designed by*
	Antisense	*GGCAACCATTTTACCCACAG*	*PrimerBlast*
Igf1	*Sense*	*TGTAAACGACCCGGACCTAC*	*(3)*
	Antisense	*CACGAACTGAAGAGCATCCA*	
Igfbp3	*Sense*	*ACCCAGAACTTCTCCTCCGA*	*Designed by*
	Antisense	*CCGCTTTCTGCCTTTGGAAG*	*PrimerBlast*
Glucor	*Sense*	*CGGGACCACCTCCCAAA*	*Designed by*
	Antisense	*CCCCATAATGGCATCCCGAA*	*PrimerBlast*

* Mayor urinary protein (MUP) primers will potentially amplify four different *Mup* mRNA (if expressed), i.e., *Mup1, Mup2, Mup6* and *Mup8*.

Reference List

1. Wiwi CA, Gupte M, Waxman DJ . Sexually dimorphic P450 gene expression in liver-specific hepatocyte nuclear factor 4alpha-deficient mice. Mol Endocrinol 2004; 18:1975-1987.

2. Holloway MG, Laz EV, Waxman DJ . Codependence of growth hormone-responsive, sexually dimorphic hepatic gene expression on signal transducer and activator of transcription 5b and hepatic nuclear factor 4alpha. Mol Endocrinol 2006; 20:647-660.

3. Eleswarapu S, Gu Z, Jiang H . Growth hormone regulation of insulin-like growth factor-I gene expression may be mediated by multiple distal signal transducer and activator of transcription 5 binding sites. Endocrinology 2008; 149:2230-2240.

Supplemental Table 2: PCR conditions for different genes.

Gene	Denaturation	Annealing/Extension
Adh1	95°C for 15 s	60°C for 1 min
Cyclophilin	95°C for 15 s	60°C for 1 min
Cyp2a4	95°C for 15 s	60°C for 1 min
Cyp2b9	95°C for 15 s	60°C for 1 min
Cyp2d9	95°C for 15 s	60°C for 1 min
Cyp7b1	95°C for 15 s	60°C for 1 min
*Mup 1/2/6/8**	95°C for 15 s	60°C for 1 min
Mup1	95°C for 15 s	60°C for 1 min
Ghr	95°C for 15 s	60°C for 1 min
Igfbp3	95 C for 15 s	60°C for 1 min
Glucor	95 C for 15 s	60°C for 1 min
Igf1	95 C for 15 s	60°C for 1 min

Gene	Denaturation	Annealing	Extension
Cyp3a16	95°C for 15 s	56°C for 20 sec	72°C for 20sec
Cyp3a44	95°C for 15 s	56°C for 20sec	72°C for 20sec
Cyp3a41	95°C for 15 s	56°C for 20sec	72°C for 20sec
Prlr	95°C for 30 s	61°C for 1 min	72°C for 30sec

* Mayor urinary protein (MUP) primers will potentially amplify four different *Mup* mRNA (if expressed), i.e., *Mup1, Mup2, Mup6* and *Mup8*.

Supplemental Figure 1: **Expression of liver *Igfbp3* and *Glucor* expression in female and male *Drd2*$^{-/-}$, neuroDrd2KO and lacDrd2KO mice.** Percentage of target mRNA levels normalized to cyclophilin mRNA levels, in relation to control females are represented in the Y axis. N= 5 in *Drd2*$^{-/-}$, 8-10 in neuroDrd2KO and 6-8 lacDrd2KO mice. Two way analysis of variance for the effects of sex and genotype was performed. *P* of interaction was not significant in any case. * $P < 0.05$ vs sex-matched *Drd2*$^{+/+}$ mice.

Supplemental figure 1