Supplementary Excel Tables S1 to S9 README

Sex-biased lncRNAs inversely correlate with sex-opposite gene co-expression networks in Diversity Outbred mouse liver


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Table S1A. Samples used to discover liver-expressed lncRNA
Table S1B. Datasets used to identify sex-specific lncRNAs
Table S2A. Gene information and RNA-seq expression data for 15,558 liver-expressed lncRNAs
Table S2B. Circadian regulation of 15,581 liver-expressed lncRNAs
Table S2C. Sex-specific liver-expressed lncRNAs regulated during male mouse liver development. Gene set designations are those indicated in Fig. 3A.

Table S3A Expression values for 19,765 protein-coding genes and multiexonic, intergenic lncRNAs that are expressed in at least one sample across 112 male DO mouse livers fed with standard chow. Expression values are in log2(FPKM+1) after batch correction. Genes in chr Y are excluded
Table S3B. Expression values for 19,825 protein-coding genes and multiexonic, intergenic lncRNAs that are expressed in at least one sample across 121 female DO mouse livers fed with standard chow. Expression values are in log2(FPKM+1) after batch correction. Genes in chr Y are excluded.

Table S4. List of 1,033 sex-specific protein-coding genes
Table S5A. Pearson correlations between 73 sex-specific liver lncRNAs (40 lncs showing significant correlation with any gene modules in male liver, in Table S5A, and 52 lncs showing significant correlations with any gene modules in female liver, in Table S5B) across the full set of 112 male DO mouse livers, and separately, across the full set of 121 female DO mouse
livers, for the sets of 1,018 and 1,014 sex-biased protein-coding genes shown. These are subsets of the full set of 1,033 sex-biased genes identified in at least one of the DO strains or CD1 mice. Shown here in Table S5A are the correlations between 40 sex-specific lncRNAs and sex-specific protein-coding genes in male liver.

Table S5B. Shown here in Table S5A are the correlations between 52 sex-specific lncRNA and sex-specific protein-coding genes in female liver. Also see legend to Table S5A.

Table S6. List of eRNA discovered in male liver

Table S7A. Gene modules discovered in male liver. See Table S7C for a complete list of genes in each male liver gene module.

Table S7B. Gene modules discovered in female liver. See Table S7D for a complete list of genes in each female liver gene module.

Table S7C. Gene modules (gene clusters) that were discovered in male liver samples

Table S7D. Gene modules (gene clusters) that were discovered in female liver samples

Table S8A. Gene modules, discovered in male liver samples, that contain significant number of genes that are hypox-responsive. Table S7C contains the full list of gene in each gene module.

Table S8B. Gene modules, discovered in female liver samples, that contain significant number of genes that are hypox-responsive. Table S7D contains the full list of gene in each gene module.

Table S9A. List of sex-specific lncRNAs that show a significant correlation at FDR < 0.001 with one or more sex-specific protein-coding gene cluster in male liver

Table S9B. List of sex-specific lncRNAs that show a significant correlation at FDR <0.001 with one or more sex-specific protein-coding gene cluster in female liver

Table S9C. List of 8 sex-specific lncRNAs from Table 2 that show a significant negative correlation at FDR < 0.0001 with a sex-specific protein-coding gene module discovered in either male or female DO mouse liver and that show the opposite sex bias and also inverse hypox response class as the negatively correlating sex-specific lncRNA. Rows marked 1 in column A present data for the negative correlations shown by these 8 lncRNAs with gene modules, as summarized in Table 2. Rows marked 2 in column A present positive correlation data for 4 of these same 8 lncRNAs with other gene modules, as shown. In many cases (red text in column B), the positively correlating gene module shows enrichment for the same hypox response class as the lncRNA, consistent with their being co-regulated. Data presented here are collected from Tables S9A and S9B.

Table S9D. Developmental and circadian regulation, and rat homologous sequences of sex-specific lncRNAs listed in Table 2.
Table S9E. Sex-specific lncRNAs used for the analysis in Figure 7A

Table S9F. Sex-specific lncRNAs used for the analysis in Figure 7B