**Table S9.** Enrichment of Gene Ontology (GO) terms for sets of sex-biased differentially-expressed genes in gonads.

### A. Significantly enriched GO terms - 682 out of 1892 in male (p <0.05)

| Selected GO Terms | DE (N)¹ | FDR² | Representative male DE genes (out of 2824) |
|-------------------|---------|------|------------------------------------------|
| Cell adhesion (GO:0007155, BP) | 153 (590) | 3.9E-15 | Insulin-like growth factor-binding protein 7 (*IBP7*); Sorbin and SH3 domain-containing protein 1 (*SRBS1*); Filamin-binding LIM protein 1 (*FBLI1*); Peripheral myelin protein 22 (*PMP22*); Transforming protein RhoA (*RHOA*). |
| Regulation of locomotion (GO:0040012, BP) | 162 (743) | 1.6E-09 | Bone morphogenetic protein 8B (*BMP8B*); Nuclear factor erythroid 2-related factor 2 (*NF2L2*); Matrix metalloproteinase-28 (*MMP28*); C-C motif chemokine (*CCL25*); Dual specificity protein phosphatase 1 (*DUS1*). |
| Regulation of cell motility (GO:2000145, BP) | 150 (677) | 2.7E-09 | Nuclear factor erythroid 2-related factor 2 (*NF2L2*); Dispanin subfamily A member 2b (*DSA2B*); HLA class II histocompatibility antigen gamma chain (*HG2A*); Caveolae-associated protein 1 (*CAVN1*). |
| Cell motility (GO:0048870, BP) | 148 (678) | 7.0E-09 | (TGFB1) Transforming growth factor beta-1 proprotein; StAR-related lipid transfer protein 13 (*STA13*); Receptor-type tyrosine-protein phosphatase O (*PTPRO*); Amyloid-beta A4 precursor protein-binding family B member 1 (*APBB1*); NACHT, LRR and PYD domains-containing protein 8 (*NALP8*). |
| Signal transduction (GO:0007165, BP) | 465 (2770) | 9.6E-09 | Sorbin and SH3 domain-containing protein 1 (*SRBS1*); Cyclic AMP-dependent transcription factor ATF-4 (*ATF4*); 5’-AMP-activated protein kinase subunit gamma-3 (*AAKG3*); C-terminal-binding protein 1 (*CTBP1*); Regulator of G-protein signaling 1 (*RGS1*); Potassium channel subfamily K member 10 (*KCNKA*). |
| Cilium movement (GO:0003341, BP) | 17 (43) | 7.6E-04 | Cilia- and flagella-associated protein 206 (*CF206*); Intraflagellar transport protein 57 (*IFT57*); Tubulin polyglutamylase (*TTLL6*); Tektin-1 |
Coiled-coil domain-containing protein 103 (CC103).
Sperm-associated antigen 8 (SPAG8);
Intraflagellar transport protein 81 (IFT81);
Izumo sperm-egg fusion protein 1 (IZUM1);
Spermatogenesis-associated protein 6 (SPAT6).

Sperm flagellar protein 2 (SPEF2);
cAMP-dependent protein kinase catalytic subunit beta (KAPCB);
Intraflagellar transport protein 81 homolog (IFT81);
Gamma-aminobutyric acid receptor-associated protein (GBRAP);
Parkin coregulated gene protein homolog (PACRG).

| Sperm part (GO:0097223, CC) | 29 (108) | 3.6E-03 |
|-------------------------------|----------|---------|
| Sperm midpiece (GO:0097225, CC) | 6 (11) | 3.4E-02 |

B. Significantly enriched GO terms - 36 out of 622 in female (p <0.05)

| Selected GO Terms | DE (N) | FDR  | Representative female DE genes (out of 3095) |
|-------------------|--------|------|------------------------------------------|
| Egg coat formation (GO:0035803, BP) | 12 (12) | 5.9E-09 | Zona pellucida sperm-binding protein 3 (ZP3); Sodium-dependent lysophosphatidylcholine symporter 1-A (NLSIA). |
| Regulation of fertilization (GO:0080154, BP) | 18 (28) | 6.4E-09 | Tetratricopeptide repeat protein 32 (TTC32); High choriolytic enzyme 1 (HCE1); Zona pellucida sperm-binding protein 4 (ZP4); High choriolytic enzyme 2 (HCE2); Zona pellucida sperm-binding protein 2 (ZP2); Transcription factor IIIB (TF3B). |
| Sperm-egg recognition (GO:0035036, BP) | 18 (35) | 2.7E-06 | Protein Bouncer (BNCR); CD9 antigen (CD9) |
| Cytochrome complex (GO:0070069, CC) | 29 (63) | 7.5E-05 | Cytochrome c oxidase subunit 3 (COX3); Cytochrome b (CYB); Normal mucosa of esophagus-specific gene 1 protein (NMES1); Cytochrome c oxidase subunit 1(COX1); Protoheme IX farnesyltransferase (COX10). |
| Regulation of mitochondrial mRNA stability (GO:0044528, BP) | 5 (5) | 4.3E-03 | FAST kinase domain-containing protein 3 (FAKD3); Phosphodiesterase 12 (PDE12). |
| regulation of reproductive process (GO:2000241, BP) | 23 (93) | 4.9E-03 | F-box only protein 5 (FBX5); Histone-lysine N-methyltransferase (PRDM9); Putative transcription factor Ovo-like (OVOL1); Wee1-like protein kinase (WEE2); Cell division cycle protein 20 homolog (CDC20) |

¹Total number of DE genes is displayed in brackets. ²FDR – False Discovery Rate (Benjamini and Hochberg, 1998)