



Supplementary information, Figure S1 Confirmation of sperm cell purity and electrophoretic size distribution of extracted RNAs. **(A)** Morphology of collected sperm under phase contrast microscopy. **(B)** Biomarkers of leukocytes (CD45), testicular germ cells (c-kit) and epithelial cells (E-cadherin) were unable to be amplified from the RNA extracted from our sperm sample, while positive markers of sperm (protamine-1 and -2) were easily detected, indicating the purity of our sperm sample. **(C-E)** Electrophoretic size distribution of RNAs in mouse mature sperm **(C)**, testis **(D)** and uterus **(E)** analyzed by Agilent Bioanalyzer. Note that sperm RNAs are enriched in smaller size fractions and lack the 28s, 18s peaks that are observed in other tissue types, which is similar to previous reports for mature human sperm [1].

1 Johnson GD, Sandler E, Lalancette C, Hauser R, Diamond MP, Krawetz SA. Cleavage of rRNA ensures translational cessation in sperm at fertilization. *Mol Hum Reprod* 2011; **17**:721 -726.