These data were uploaded as supplementary data for the article “miRNA and mRNA integrated analysis reveal differential expression genes in the gonad of sea cucumber *Holothuria leucospilota* ”. Target Journal for Publication: RNA Biology.

Table S1 Primer sequences for qRT-PCR validation.

Table S2. The statistics of miRNA sequencing data.

Table S3. miRNA expression frofiles of gonads in *H.leucospilota*

Table S4. Identify the differential expressed miRNAs between testis and ovary in *H.leucospilota*

Table S5. Correlation analysis of miRNA-mRNA