## **Inventory of Supplementary Materials:**

Supplementary Figures:

Figure S1, related to Figure 1

Figure S2, related to Figure 2

Figure S3, related to Figure 2

Figure S4, related to Figure 4

Figure S5, related to Figure 4

Figure S6, related to Figure 5

Figure S7, related to Figure 6

**Table S1**, related to Figure 1. Tab1. Names of cell types. Tab2. Reads mapped in each library. Tab3. Correlation between array and RNAseq, and between cufflinks and stringtie.

**Table S2**, related to Figure 2. Tab1. List of local alternative acceptor events. Tab2. List of local alternative donor events. Tab3. List of local exon skipping events. Tab4. List of type I and type II intron retention events.

**Table S3**, related to Figure 4 and Figure 7. Tab1. List of primers used in the RT-PCR validation. Tab2. Expression levels of significantly differentially expressed lincRNAs.

**Table S4**, related to Figure 5. Tab1. Peptide quantification. Tab2. Quantification of protein abundance. Tab3. Peptides uniquely mapped to alternative spliced isoforms.

**Table S5**, related to Figure 4. Average expression level of all isoforms.

**File S6**, related to Figure 1. Newly assembled protein coding gene models.

**File S7**, related to Figure 7. Genomic locations for the newly identified and modified lincRNAs.

**External Databases:** Raw read data were deposited in NCBI SRA database under BioProject PRJNA323955.

**Supplemental Experimental Procedures**