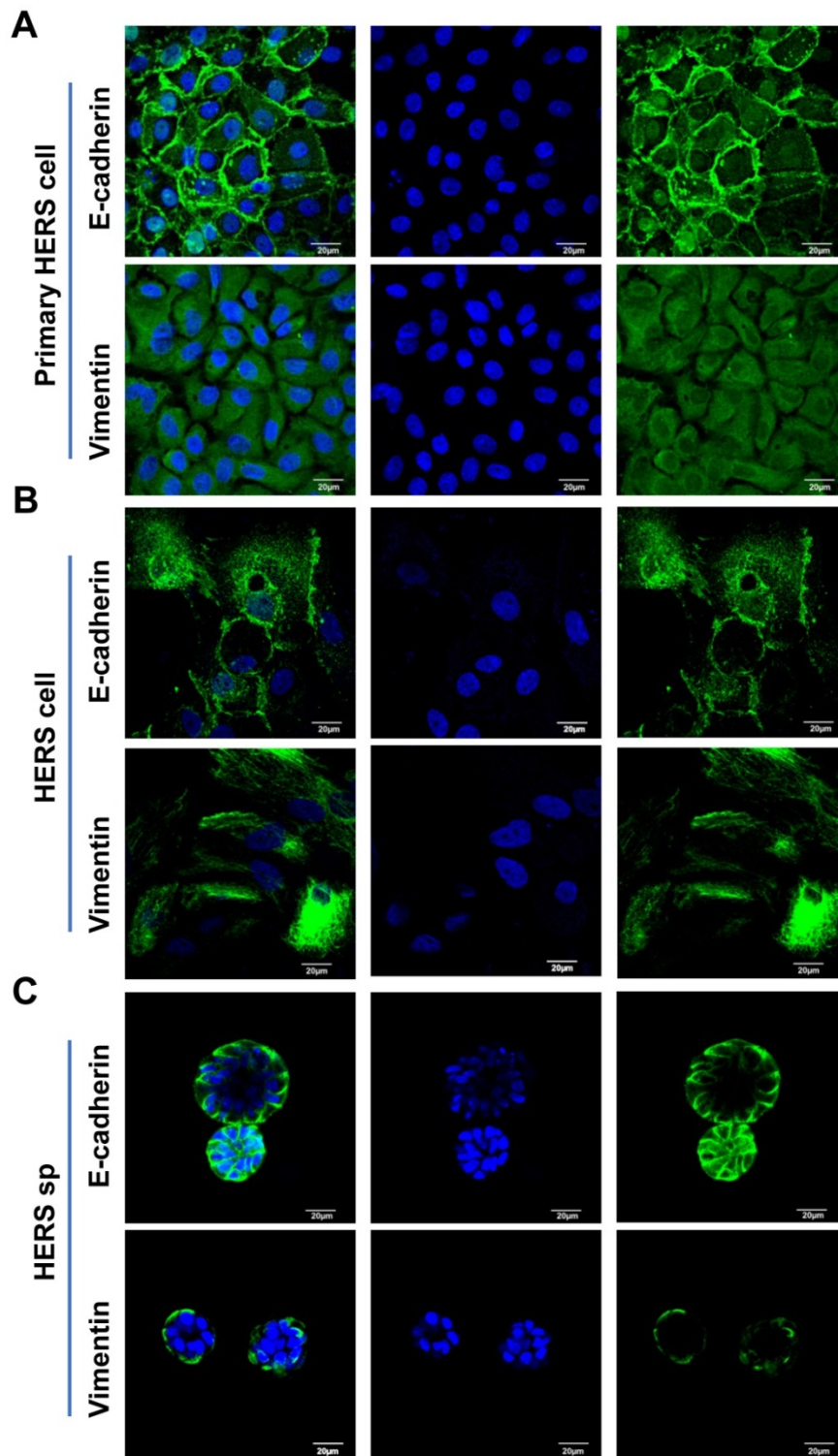
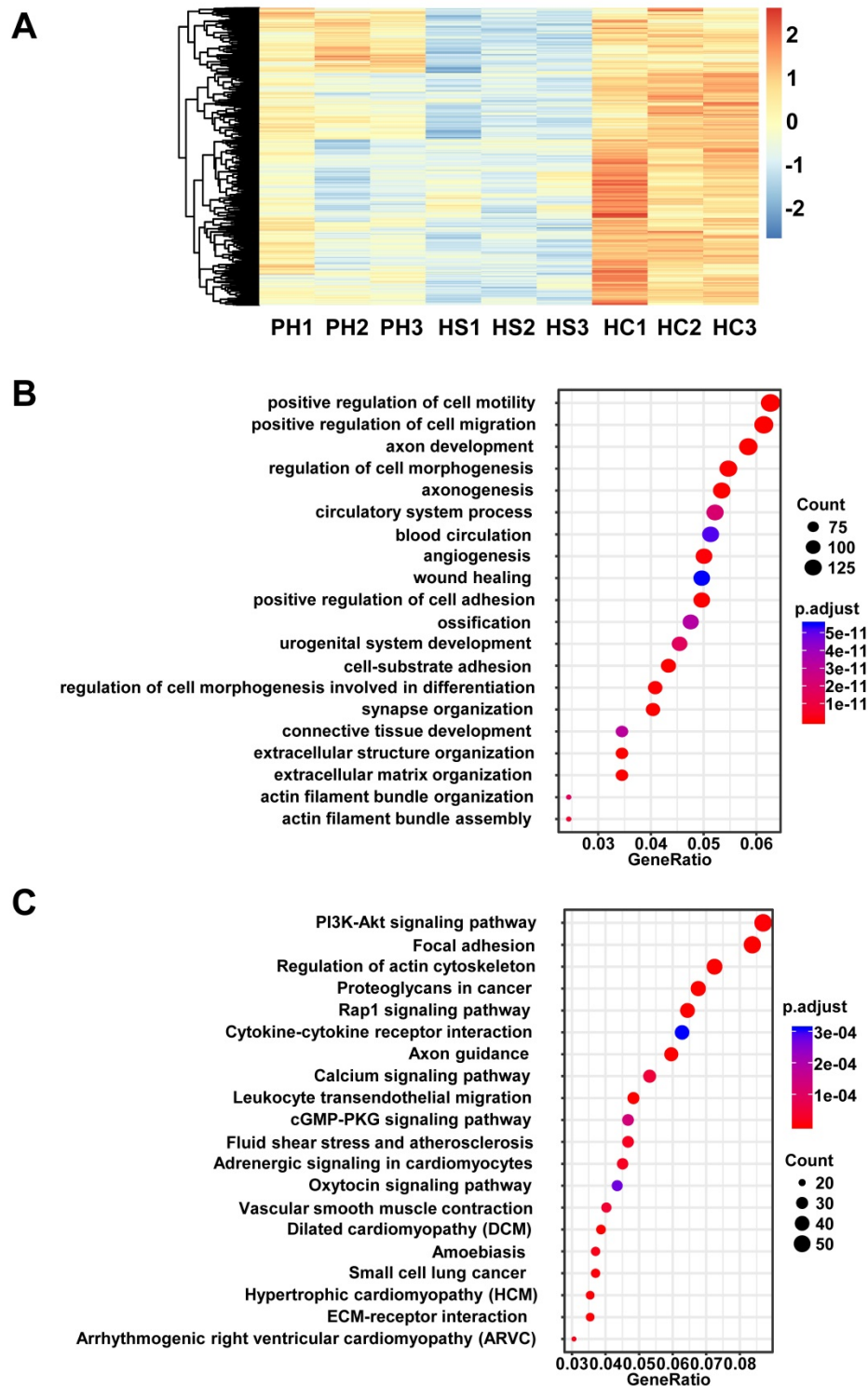


## Supplementary information



**Figure S1: Detecting the expression of E-cadherin and vimentin among primary HERS cells, 2D monolayer HERS cells, and HERS spheroids.** Primary HERS cells (A), 2D monolayer HERS cells (B), and HERS spheroids (C) all expressed the epithelial cell marker E-cadherin and the mesenchymal cell marker vimentin.



**Figure S2: Analysis of the down-regulated genes in HERS spheroids compared with 2D monolayer HERS cells.** (A) The down-regulated genes between HERS spheroids and 2D monolayer HERS cells are presented with Heatmap. (B) Gene ontology (GO) analysis of down-regulated genes (top 20). (C) KEGG enrichment analysis of the down-regulated genes (top 20). HC: 2D monolayer HERS cells; HS: HERS spheroids; PH: Primary HERS cells.