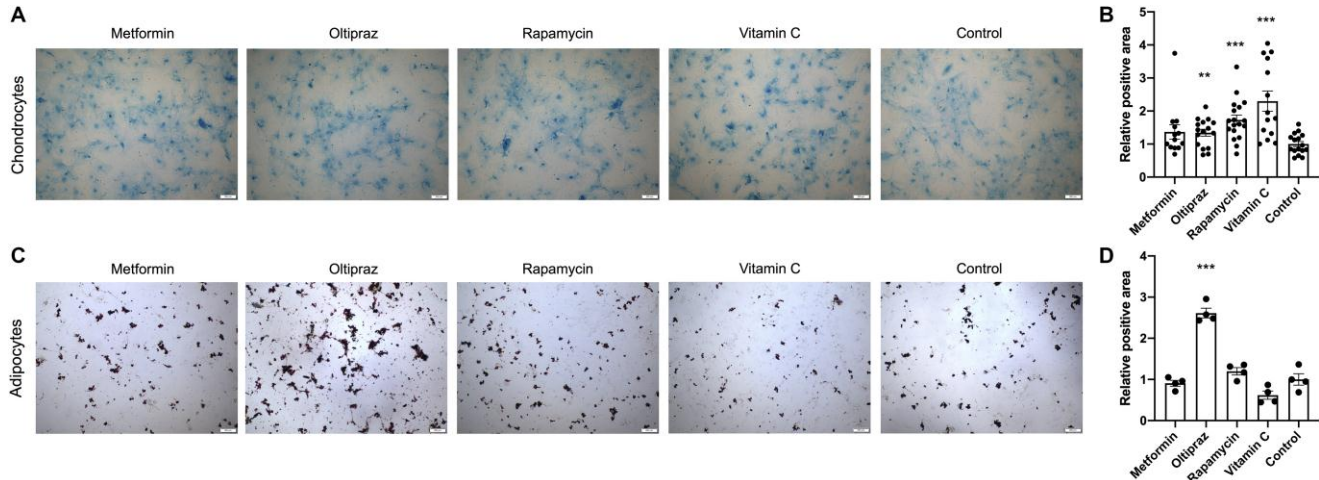
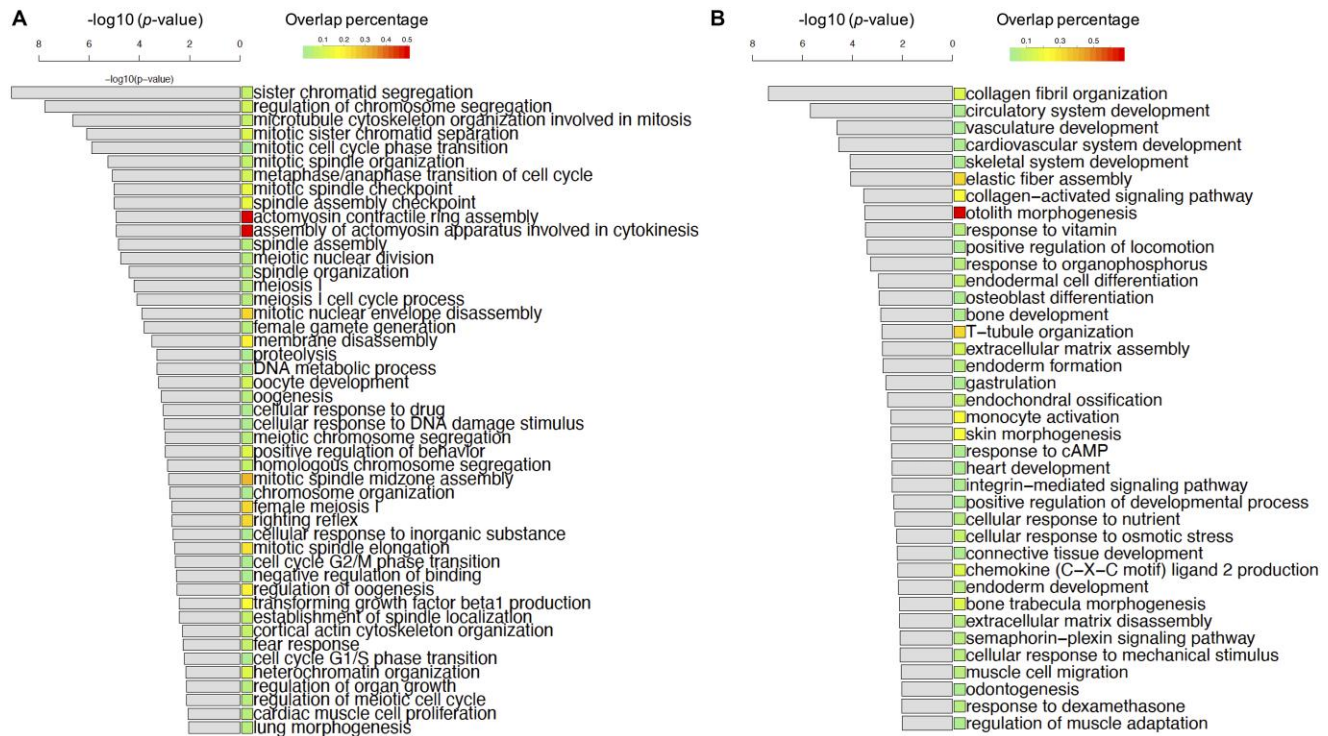


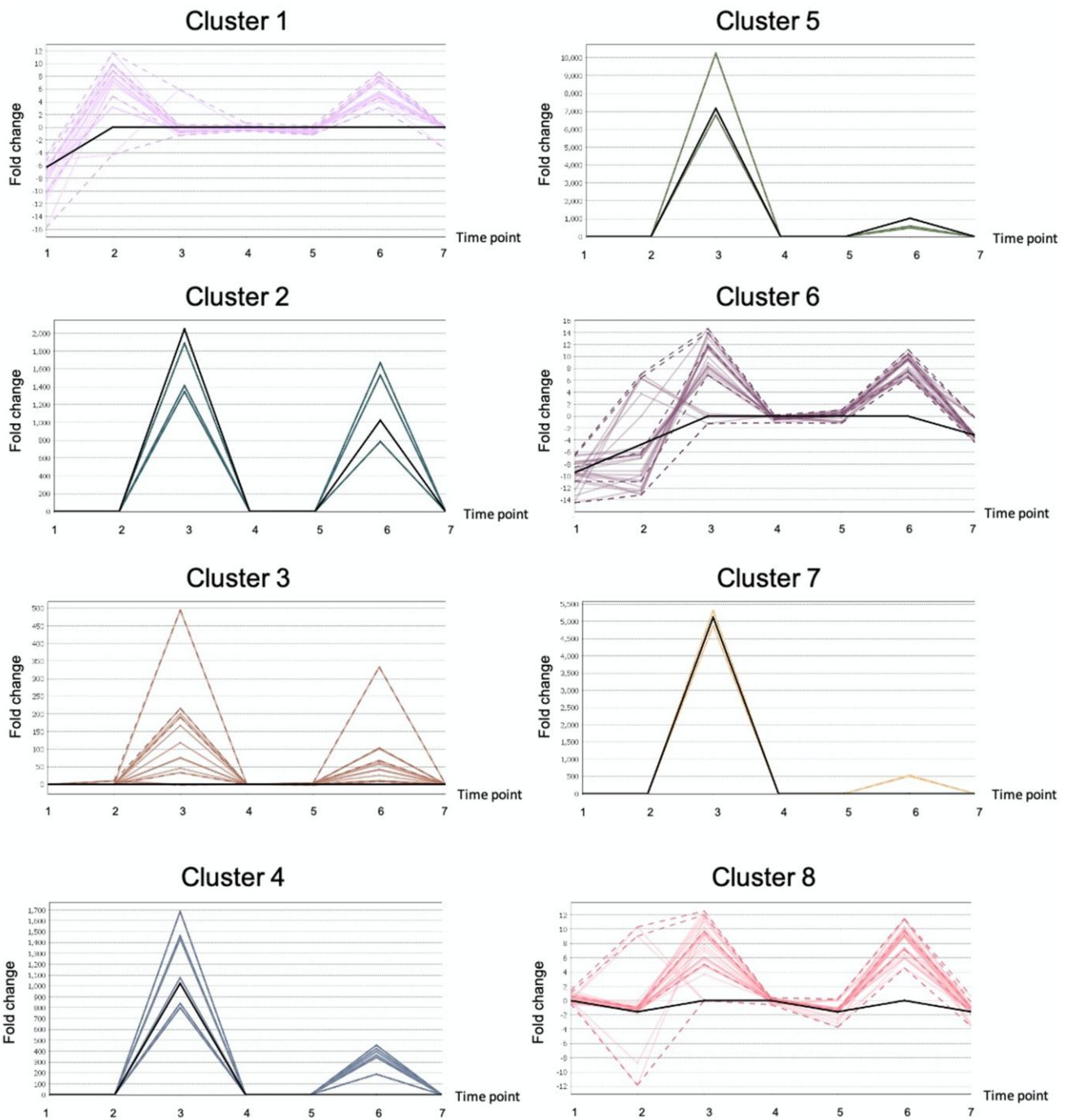
SUPPLEMENTARY FIGURES



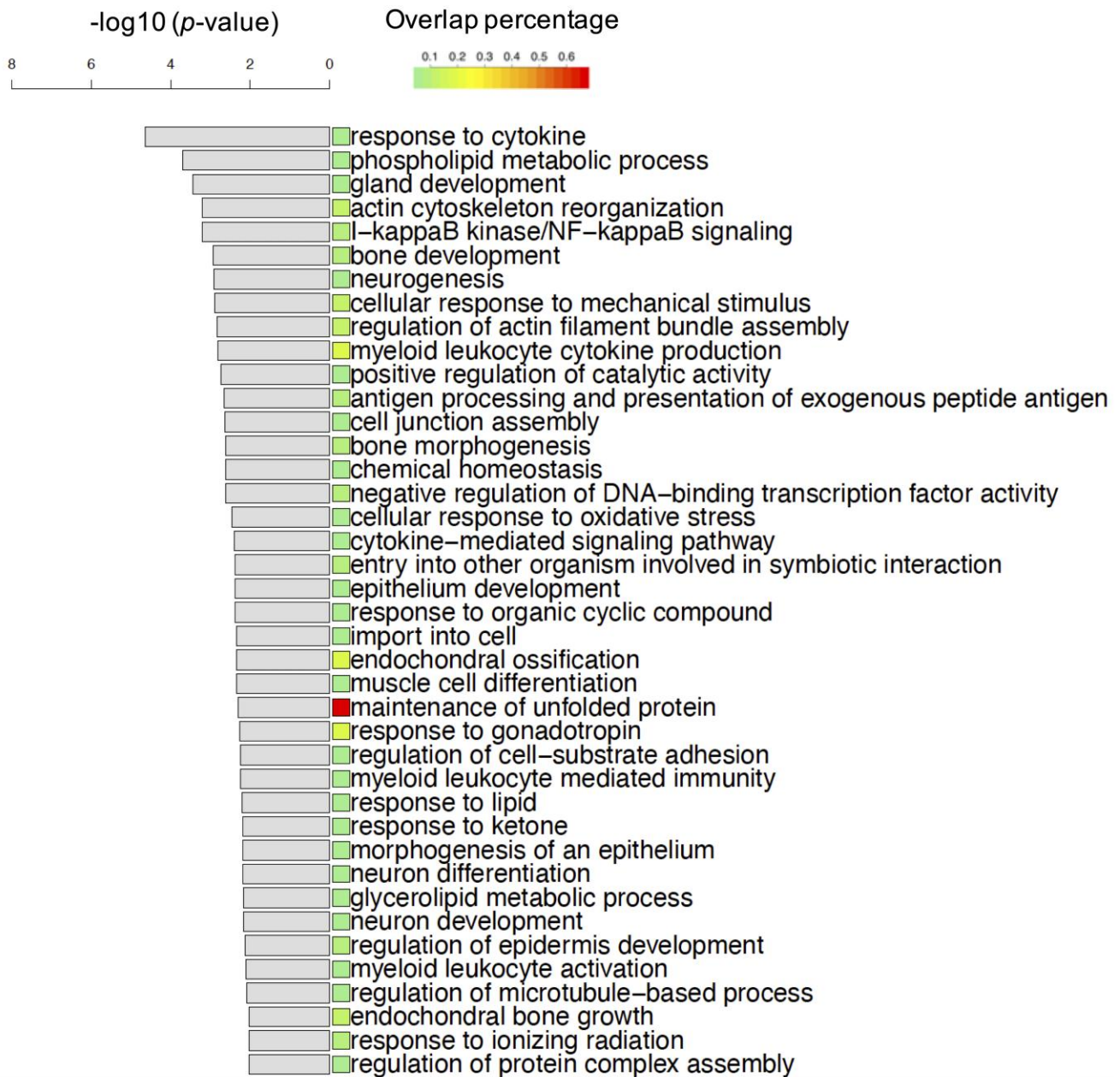
Supplementary Figure 1. The chondrogenic and adipogenic differentiation abilities of drug induced cells. (A) Alcian blue staining on day 21 after transduction to label chondrocytes. Scale bar, 200 μ m. (C) Alizarin red staining on day 21 after transduction to label osteoblast. Scale bar, 200 μ m. (B) and (D) ImageJ was used for image analysis. Pictures were quantified by measuring the positive staining intensity area. Data are presented as sthe mean \pm SEM, $n > 3$, * $P < 0.05$, ** $P < 0.01$, *** $P < 0.001$.



Supplementary Figure 2. Transcriptomics characterization of oltipraz induced BM-hMSCs. (A) Common upregulated GOs enriched in the DEG of oltipraz treated cells. (B) Common downregulated GOs enriched in the DEG of oltipraz treated cells.



Supplementary Figure 3. Clustering of the FFA time series data. We combined all the FFAs' time-series fold-changes from the four drug-control pairs and clustered them using TiCoNE (version 1.3) [3]. Totally, we got 8 clusters. Each line shows a FFA's fluctuation, and each data point is the fold-change of a FFA between a drug and control. The black line shows the trend.



Supplementary Figure 4. Common upregulated GOs enriched in the DEG of vitamin C treated cells.