Description of Additional Supplementary Files

File Name: Supplementary Data 1

Description: Sequencing quality data of mouse cardiomyocytes.

File Name: Supplementary Data 2

Description: Sequencing quality data of human cardiomyocytes.

File Name: Supplementary Data 3

Description: Myh7 and Atp2a2 mRNA smFISH intensity at week 8.

File Name: Supplementary Data 4

Description: Module annotation in mouse cardiomyocytes.

File Name: Supplementary Data 5

Description: Atp2a2 mRNA smFISH dynamics.

File Name: Supplementary Data 6

Description: Integrative analysis of single-cell morphology and gene expression of TAC W1

cardiomyocytes.

File Name: Supplementary Data 7

Description: Cdkn1a mRNA smFISH dynamics.

File Name: Supplementary Data 8

Description: Raw data of Figure 5b, Figure 6f, and Supplementary Figure 14c.

File Name: Supplementary Data 9

Description: Raw data of Supplementary Figure 15b.

File Name: Supplementary Data 10

Description: Module annotation in human cardiomyocytes.

File Name: Supplementary Data 11 **Description**: Primer sequences.