

## Description of Additional Supplementary Files

### **Supplementary Data 1**

Variance of gene expression explained by each of the covariates for uni-culture and village samples collected across multiple sites.

### **Supplementary Data 2**

Variance of gene expression explained by each of the covariates for uni-culture and village samples collected at Site 3 before and after cryopreservation.

### **Supplementary Data 3**

hiPSC lines metrics.

### **Supplementary Data 4**

Variance of gene expression explained by each of the covariates for fresh and cryopreserved samples across pseudotime.

### **Supplementary Data 5**

Variance of gene expression explained by each of the covariates for villages collected during hiPSC village maintenance at passages one, four and eight.

### **Supplementary Data 6**

Proportion of lines during cardiomyocyte differentiation.

### **Supplementary Data 7**

Proportion of lines during multiple passages.

### **Supplementary Data 8**

scCODA Metrics.