

# Supplementary Information

## Supplementary Tables 1 to 23 (“Supplementary Tables.xlsx”)

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- **Supplementary Table 2:** Cell Sorting results
- **Supplementary Table 3:** Summary of transplantations experiments
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- **Supplementary Table 10:**  $\beta$ -cell enriched genes
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- **Supplementary Table 18:** Upregulated  $\alpha$ -cell-related genes during reprogramming process
- **Supplementary Table 19:**  $\beta$ -cell-related proteins detected in the aggregation and PM-effect signature (related to Fig.4h)
- **Supplementary Table 20:** IPA downstream effects analysis in comparison between before and after transplantation of  $\alpha$ PM cells (related to Extended Data Fig.8i)
- **Supplementary Table 21:** IPA using scRNA-seq data in comparison between “early” and “late”  $\alpha$ PM
- **Supplementary Table 22:** HLA haplotypes of donor samples used in CTL killing assay (related to Fig. 6)
- **Supplementary Table 23:** List of primer sequences for RT-qPCR

## Supplementary Data 1-3

- **Supplementary Data 1:** Immunostaining of sorted islet cells
- **Supplementary Data 2:** Tile scan picture of immunostaining in sorted  $\alpha$ -cells
- **Supplementary Data 3:** Tile scan picture of immunostaining in sorted  $\beta$ -cells