Supplemental Information

Reprogramming of Urine-Derived Renal Epithelial Cells into iPSCs Using srRNA and Consecutive Differentiation into Beating Cardiomyocytes

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| Gene                 | Forward primer (5'→3')                      | Reverse primer (5'→3')                      |
|----------------------|---------------------------------------------|---------------------------------------------|
| **pluripotency marker** |                                             |                                             |
| GAPDH                | TCAACAGCGACACCCACTCC                        | TGAGGTCCACCACCCCTGTGTG                     |
| Oct4                 | AGCGAACCAGTATCGAGAAC                        | TTACAGAACACACATCGGAC                      |
| Sox2                 | AGCTACAGCATGATGCAGGA                       | GGTCAATGGAGTGTACTGCA                      |
| Nanog                | TGAACCTCAGCTACAAACAG                       | TGGTGGAAGGAGTAAAG                        |
| Lin28                | TTCCACCTCGGAAACAAAC                       | CAGCCACCTGCAAAC                         |
| E-Cadherin           | TATACCCTGTGTTGTCAG                            | CACCTGACCTTTGTACGT                          |
| Klf4                 | TCTCAAGGACACACCTGCA                        | TAGTGCCCTGGTCAGTTC                          |
| cMyc                 | ACTCTGAGGAGGAAACAAAGA                      | TGGAGACGTTGGCACCTCTT                        |
| **srRNA specific marker** |                                             |                                             |
| nsP2                 | TCCACAAAAGCATCTCTCGCCG                      | TTTGCAACTGCTTCACCCACCC                     |
| nsP4                 | TTTTCAAGGCCCAAGGTCGCAG                      | TGTCTGGATCGCTGAAGGCAC                     |
| **cardiomyocyte marker** |                                             |                                             |
| ANP                  | CAGACCAGAGCTAATCCCAT                       | GCCAGAAAATTCTTGAAATCC                      |
| cTnT                 | TTRACCTCCAGAAGACAGAAGCG                     | TCTCCCTCAGCTGATCTTCAT                     |
| MHC6                 | GAAGCACAAGATGACAGGAT                     | CTCTGACTTGCGGAGGTACT                      |
| ACTC1                | ATGTGTGACGAGGAGGAGAC                     | ACCCACCATAACTCCCTGGT                     |

**Abbreviations:** GAPDH: Glyceraldehyde-3-phosphate dehydrogenase, Oct4: Octamer binding transcription factor 4, Sox2: Sex determining region Y-box 2, E-Cadherin: Epithelial cadherin, Klf4: Krüppel-like factor 4, c-Myc: Cancer myelocytomatosis, nsP: Non-structural protein, ANP: Atrial natriuretic peptide, cTnT: Cardiac troponin T, MHC6: Myosin heavy chain 6, ACTC: α-actin, cardiac muscle.
**Supplementary Figure 1:** Pluripotency marker analysis of REC-iPSCs at passage 25 after initial picking. Flow cytometric measurement of TRA-1-60 and Nanog stained cells.

**VIDEO 1**

**Characterization of contracting cardiomyocytes:** Recordings of 30 s (7 pictures/s) showing wide ranges of motion and directional synchronous contractions. Direction is indicated by arrows using Matlab application Motion GUI.

**VIDEO 2**

**Calcium ion staining of contractile cardiomyocytes:** Fluorescent calcium indicators were used to visualize the intracellular calcium flux during contraction. Recordings of 30 s (7 pictures/s) showing Ca\(^{2+}\) transients in the cardiomyocyte culture.