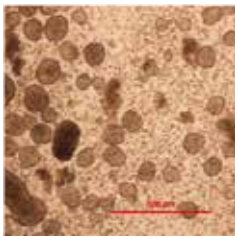
YAMAHA Stem Cell Research

Differentiation analysis of iPSC

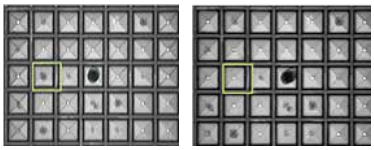
Embryoid body (EB) spheroids derived from 201B7 cells were selected and grouped by size (area).
Expression levels of several differentiation markers were measured (Fig. 1).
Our result showed that small-sized EB spheroids tended to remain undifferentiated.

* Data from iPS Portal

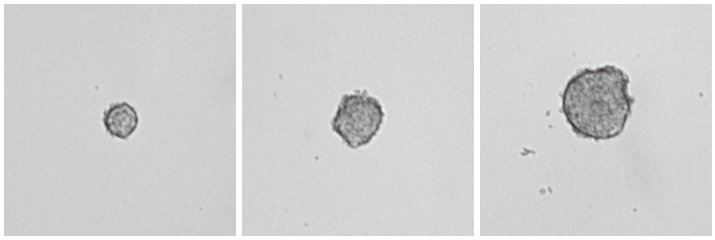


* 201B7 cells
  - 1 x 10^6, 3-day culture
* Embryoid body
  - Feeder-free medium
  - Ultra low attachment plate (6-well plate)

Selecting and picking by CELL HANDLER™



Before picking | After picking



Small | Medium (After transferring to MP) | Large

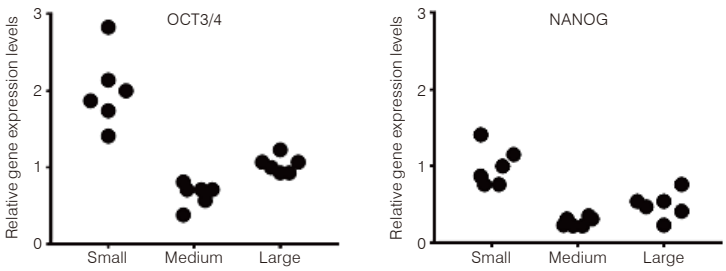


Figure 1
Gene expression levels

iPS-derived cardiomyocytes

CELL HANDLER™ can accurately pick up spheroids of different sizes and shapes. In this example (Fig. 2), cardiomyocyte spheroids with varying characteristics were intentionally picked (Fig. 3).
After 3-day incubation, the spheroids were found to rhythmically contract, resembling functional cardiac muscle.

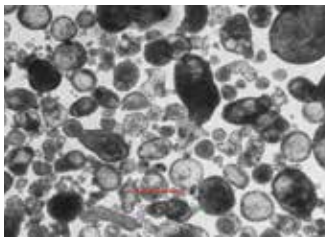


Figure 2
Cardiomyocytes*

Selecting and picking by CELL HANDLER™

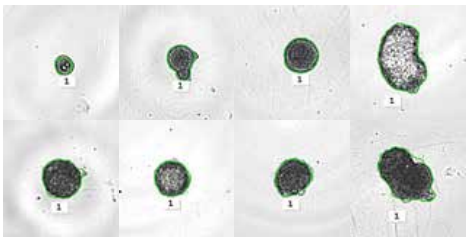


Figure 3
Cardiomyocytes in MP

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