**Supplementary Figure 1** Immunostaining analysis of SFEB-treated ES cell aggregates. (a) The percentages of Oct3/4+ cells during days 0–5. Cells were dissociated, permeated, stained with anti-Oct3/4 antibody and counted by flow cytometry. (b-d) ES cell treated with the SFEB culture (day 5) were immunostained with GFP, and Nestin antibodies. (e and f) Percentages of Nestin-, RC2- and E-cadherin-positive cells among Sox1-GFP+ or Sox1-GFP− cells in SFEB-treated ES cell aggregates on day 5. (g) Expression of early ectodermal markers in SFEB during days 0–5. ES cells, undifferentiated cells; embryo, E8.5 mouse embryo.